THEORY-BASED EVALUATION, LOGIC MODELLING AND THE EXPERIENCE OF SA NON-GOVERNMENTAL ORGANISATIONS

by
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Declaration

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March 2014

Abstract

This study examined the origins and development of theory-based evaluation (TBE) and the logic models associated with this approach. This was done in order to better understand the roots and evolution of these models which are currently used by donor agencies both nationally and internationally. It was found that logic models, which are used for both project management and evaluation, had their origins in a range of domains including management, education and curriculum design from as early as 1909. Early evaluators from the education, training and health sectors as well as contextual factors such as the professionalization of evaluation and an ever- increasing demand for accountability contributed significantly to the development of both TBE and its associated models.

A systematic review of a large sample of logic models and logical frameworks was conducted in order to bring some order and clarity to the plethora of models facing stakeholders in the field of evaluation. It was discovered that four key types of logic models and two key types of logframes face developers and users of models but that the "branding" of donors of their particular demand for accountability, obscures this fact.

In order to understand the experience of South African Non-Governmental Organisations when engaging with donors and their demands for accountability a survey was carried out of those organisations which were utilising a specialised form of planning tool. The findings of this study show that South African donors, like their international counterparts, mainly use the models associated with TBE to obtain standardised and focused evidence of results from projects albeit with a distinct scepticism about the actual necessity of some of the donor requirements. Most Non-Governmental Organisations view the donor requirements, such as the logic model and logical framework, as necessary in the funding relationship despite indicating that they find the models inflexible.

The study not only makes a contribution to an under-researched area in programme evaluation, it also provides insights into an under-researched area of the South African Non-Governmental sector.

Opsomming

Die doel van die studie was om 'n in-diepte begrip van die ontwikkeling van logika modelle ("logic models") en logika raamwerke ("logical framework") te ontwikkel ten einde die ervarings van Suid-Afrikaans nie-regeringsorganisasies met donateurs beter te begryp. In besonder was die doel om vas te stel hoe sodanige organisasies die vereistes rondom projekbeplanning, monitering, evaluasie en rapportering ervaar. Die studie het gevind dat die oorspronge van hierdie modelle, wat beide vir projekbestuur en evaluasie gebruik word, te vinde is in verskeie areas insluit bestuur, opvoedkunde and kurrikulumontwerp. Die eerste generasie evalueerders in opvoedkunde, opleiding en gesondheid sowel as kontekstuele faktore soos die professionalisering van evaluasie en die immer-toenemende vereistes van rekenpligtigheid het alles beduidend bygedra tot die ontwikkeling van logika modelle.

'n Sistematiese oorsig en ontleding van 'n beduidende steekproef van logika modelle en raamwerke is uitgevoer ten einde meer helderheid en sistematiek te kry in 'n domein waar daar uiteenlopende benaderings en modelle is. Daar is gevind dat vier sleuteltipes logika modelle en twee sleuteltipes logika raamwerke deur die meeste organisasies gebruik word maar dat verskillende befondsingsagentskappe en organisasies hul eie betekenis en inhoud aan hul logika modelle gee.

Ten einde die ervarings van Suid-Afrikaanse nie-regerings organisasies te begryp is 'n opname uitgestuur aan alle organisasies wat hierdie raamwerke gebruik. Die resultate van die opname wys dat Suid-Afrikaanse befondsagentskappe, soos hulle internasionele vennote, veral modelle gebruik wat geasosieer is met teorie-gebaseerde evaluasie ten einde gestandaardiseerde en gefokusde getuienis van projektesultate te genereer. Die meerderheid Suid-Afrikaanse nie-regeringsorganisasies aanvaar die vereistes van donateurs alhoewel hierdie "aanvaarding" gepaardgaan met 'n duidelike skeptisisme oor die absolute noodsaaklikheid van somige van hierdie vereistes. Die meerderheid organisasies beskou donateur vereistes, veral wat betref die logika model en die logika raamwerk, as noodsaaklik binne die konteks van die befondsingsverhouding ten spyte van persepsies dat sodanige modelle some uiters rigied kan wees.

Die studies maak 'n bydrae, nie alleen in area in programevaluasie waar daar weinig navorsing is nie, maar dit bied ook insig in die gedrag en persepsies van die Suid-Afrikaanse nie-regeringsektor wat programevaluasie praktyke betref.

Acknowledgements

A dissertation is always a team effort and I was fortunate enough to have the best team possible.

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- The respondents - for providing me with insights into their organisations

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ABBREVIATIONS AND ACRONYMS

AEA	American Evaluation Association
AID	Agency for International Development
ASPE	Assistant Secretary for Planning and Evaluation
ATLAS.ti	Archiv fuer Technik, Lebenswelt und Alltagssprache
AusAID	Australian Agency for International Development
CAQDAS	Computer-aided qualitative data analysis software
CBO	Community-based organisations
CDC	Centre for Disease Control
CIDA	Canadian International Development Agency
CIPP	Context, Input, Process and Products
CMO	Context –Mechanism -Outcome
DANIDA	Danish International Development Agency
DFID	Department for International Development
EA	Evaluability assessment
GAO	Government Accountability Office
GEF	Global Environment Fund
GPRA	Government Performance and Results Act
GSDRC	Governance and Social Development Resource Centre
GTZ	Gesellschaft Technische Zusammenarbeit
HU	Hermeneutic unit
IEG	Independent Evaluation Group
INGO	International Non-governmental Organizations
ISNAR	International Service for National Agricultural Research
LF	Logical frameworks
LFA	Logframe approach
LM	Logic models
MBO	Management-by-objectives
MOV	Means of Verification
NGO	Non-governmental organisations
NORAD	North American Aerospace Defence Command
NPO	Non-profit organisation
ODI	Overseas Development Institute
OVI	Objectively Verifiable Indicators
PAR	Public Administration Review

PCM	Project Cycle Management
PD	Primary Document
PPA	Participatory poverty assessments
PRA	Participatory Rapid Assessment
RBM	Results based management
RBM&E	Results-based monitoring and evaluation
ROMA	Result Oriented Management Accountability
RRA	Rapid rural appraisal
SANGOCO	South African National NGO Coalition
SIDA	Swedish International Development Agency
TBA	Theory-based assessment
TBE	Theory-based evaluation
TDE	Theory-driven evaluation
THCU	The Health Communication Unit
ToC	Theory of change
TOP	Targeting Outcomes of Programs
UNEG	United Nations Evaluation Group
USAID	United States Assistance for International Development
UWA	United Way of America
UWEX	University of Wisconsin Extension
W.K.K.F	W.K. Kellogg Foundation
ZOPP	'Zielorientierte Projektplanung,' (tr. English to 'Objectives-Oriented Project Planning')

CHAPTER 1: INTRODUCTION

1.1 Aim of research

The overarching aim of this study is to provide an in-depth understanding of the development of logic models and logical frameworks in order to better understand the experience of South African Non-governmental Organisations (NGOs) when engaging with donors, and their demands for accountability through models of planning, monitoring, evaluation and reporting.

This chapter frames the study as it examines the relationship between donor agencies and funding recipients. In this study, the focus is specifically on the Non-governmental sector in South Africa as the researcher has worked as an evaluator in this sector for over a decade and was struggling to understand a) the resistance to donor models and also b) the challenges facing staff in NGOs as they tried to meet donor demands for accountability. The particular context in which South African NGOs function today is as a result of the specific history of the sector and its interface with the international donor sector. This history is explored briefly in this chapter in order to present the changing relationship between donors and South African NGOs.

The study is not only descriptive, but also analytical in that it developed various typologies to explain underlying patterns in the data reviewed. The two main objectives of the study are:

1. to understand the landscape of Theory-based evaluation (TBE) and the models which have come to be associated with TBE
2. to understand the response of South African NGOs to the demand of donors in terms of the models associated with TBE.

These two objectives led to the development of five key questions, as shown in Figure 1.1.

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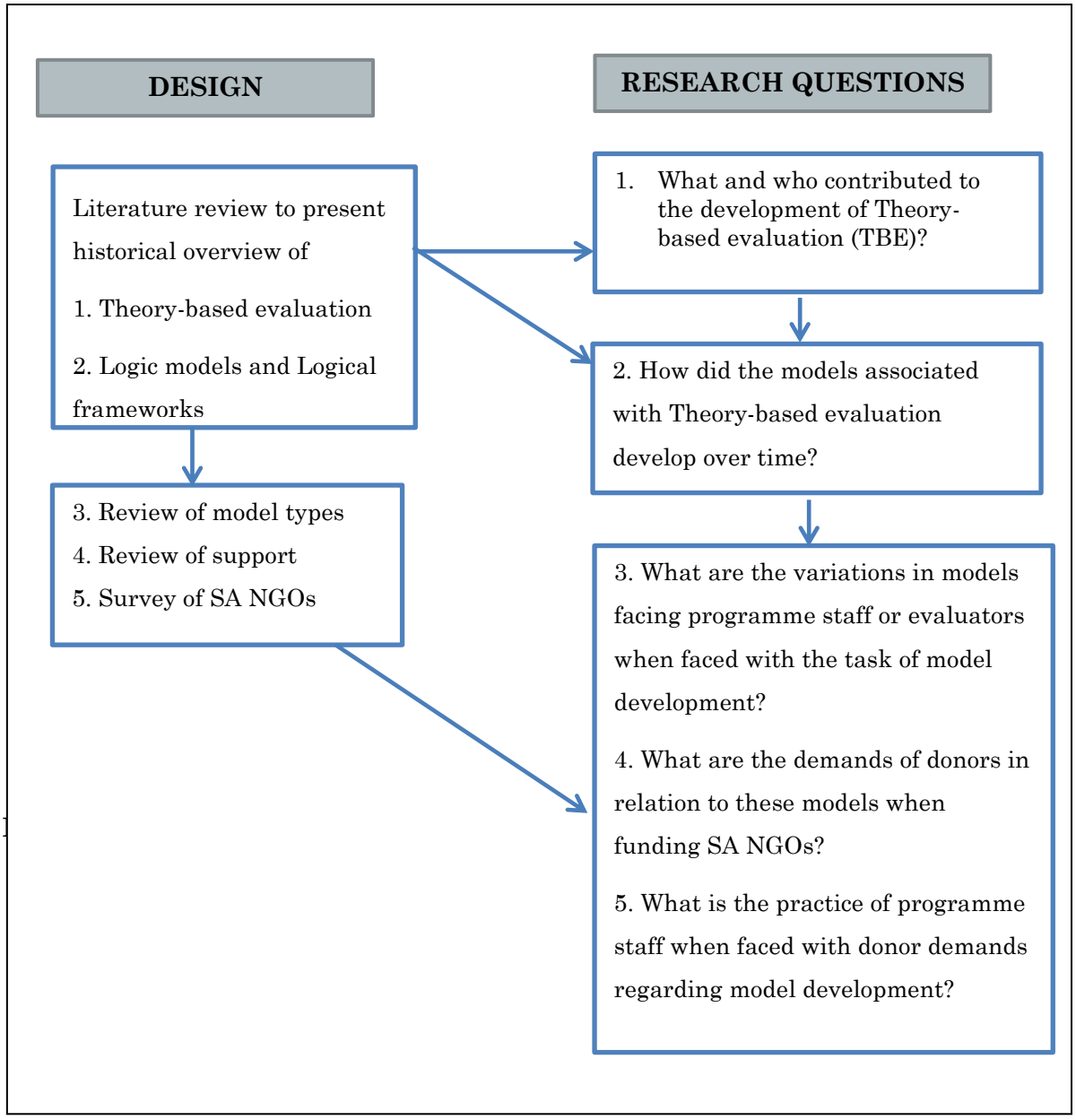

Figure 1.1: Research design and key research questions

1.2 Background to study

The relationship between South African non-governmental organisations[1] (NGOs) and donors has been shaped by three historical waves characterised by increasing accountability. While these periods overlap and boundaries are certainly not absolute, the waves can be seen as occurring prior to 1994, post-1994 and post the 2007 global economic crisis.

Prior to 1994, the end of the apartheid era, South African NGOs received funding mainly from international donors as they carried out welfare activities in poorer communities or were involved in some form of political activism. Because of the nature of their work, NGOs were seen as being in opposition to government and as a result donors were sympathetic to them and made few or no demands in terms of accountability. Funding from international sources was referred to as "solidarity funding" (Burnell, 2006:1966) and was given either directly to NGOs or channelled through religious organisations. Mouton (2010:181) describes the low- level of accountability that characterised this period in the following way:

> In terms of accountability mechanisms, the environment during this phase can be described as flexible without "too many strings attached" (Gordhan, 2010). The volatile political conditions meant that those in opposition to the reigning dispensation could not divulge too much information as this could lead to imprisonment and even discontinuation of their operations. Many donor organisations accepted an auditor report and an annual report as sufficient proof of efficient spending patterns. To qualify for donor funding, good governance tied the deal which implied a sound financial management and a solid track record.

Some of the larger international donors had slightly more stringent accountability requirements but there was still a fair amount of leeway for NGOs as donors regarded their funding as a financial contribution to the anti-apartheid movement.

[1] Swilling (2003:6) indicates that "between the mid- and late-1990s, the inexorable progress of policy making demanded that a choice be made not on a definition of civil society as such, but on what to call civil society organisations. Eventually, the policy makers and key NGO partners settled on 'NPO': a nice, depoliticised term that transcended the NGO-CBO discussion and delineated the sector from the private sector". The term" NGO" was utilised for this study as despite the official change in label many South Africans, particularly those working in the sector still refer to civil society organisations as "NGOs".

The second wave in the relationship between NGOs and donors occurred with the advent of a democratically elected government in 1994.The new government attracted a wider range of donor countries than during the previous era and with this new influx of donors, accountability mechanisms gradually became more stringent. Mouton (2010:85) notes that "the forerunners in the introduction of more stringent measures came from the international government-funded donor organisations such as DANIDA and the European Union." The shift in the South African government, together with increased interaction with international governments and donors, precipitated the emergence of a new era of accountability that impacted on NGOs and SA government departments alike. The international push for accountability was caused by a number of contextual factors but significantly by an increased interest in a Theory-based evaluation approach to evaluation which spawned a range of tools which focussed on not only the theory behind programmes but also could be used for accountability and compliance. The non-interventionist approach of donors which had characterized the 1980s and early 1990s in South Africa slowly disappeared.

Not only did accountability measures change but a large portion of the funding previously given to NGOs was given directly to the South African government through bilateral and multi-lateral agreements. NGOs now had to diversify their funding portfolio in order to be sustainable. Figure 1.2 is based on funding data provided by NGOs in 1998 and it depicts the weighting of diversified funding at the time (developed from information in Salamon, Sokolowski and List (2003)).

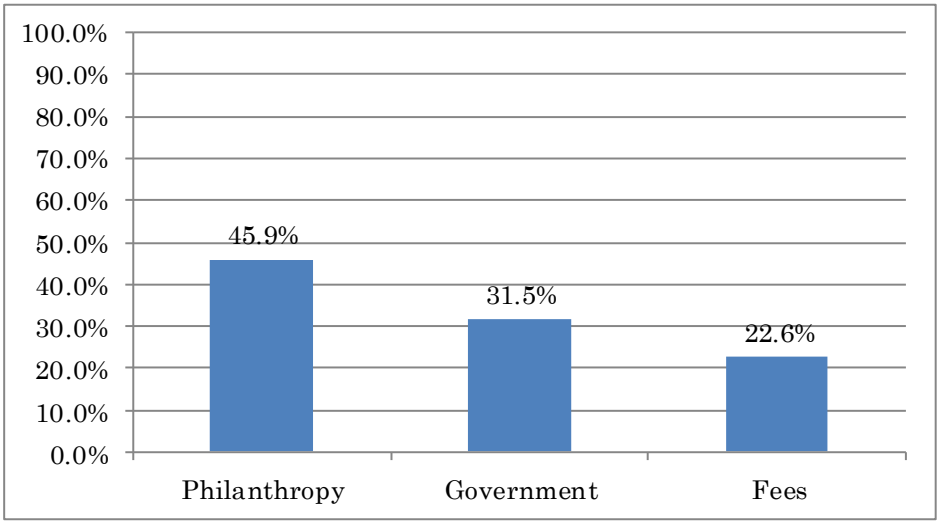

Figure 2.2: Diversified funding of SA NGOs (1998)

Philanthropy is shown to be the main source of revenue for South African NGOs (45.9%) but funding from government (31.5% in the forms of grants and contracts) and NGO revenue (22.6% from fees charged for services) cumulatively exceeded the amount received from philanthropy (54.1%). The second wave of the NGO and donor relationship did not abruptly end but the increase in accountability which occurred post-1994 was accelerated after the global economic crisis in 2007.

The third wave in the relationship has been characterised by limited funding (both international and national) and increased competitiveness in the NGO sector. South African NGOs are experiencing funding problems as international government agencies are being called on to deal with social issues in their own countries and Corporate Social Responsibility Investment (CSRI) budgets are reduced. As a result of diminished donor funding, many NGOs now tender for government contracts in order to survive and these two sectors which were adversarial before 1994 are now partnering on many programmes. Decreased international funding has also forced NGOs to compete with the corporate sector in order to become sustainable. Stuart (2013) describes this new brand of NGOs as "new-generation NGOs" and explains that

> Organisationally they are configured to have strong partnerships with the public and corporate sectors, and have innovative funding models and a variety of resource mobilisation strategies. The partnerships with the state have had the effect of introducing public sector concepts and tools, such as the log frame, targets and results-based management, into the NGO sector. Equally, other NGOs have closer

relations with corporations, leading them to swing towards increased 'managerialism' within their organisations.

Changes to the traditional nature, role and fundraising strategies of NGOs have meant that they are now faced with demands for increased levels of accountability and transparency which emanate from both international and South African donors. Table 1.1 shows the range of funding sources currently targeted by NGOS.

Table 1.1: Description of funding sources

NATIONALITY	
International	Organisation's head office is based in a country other than South Africa
South African	Organisation's head office is based in South Africa
DONOR TYPE	
Corporate sector	For-profit organisations based in the corporate/business sector. Includes foundations of private sector companies and Corporate Social Responsibility Initiatives (CSRIs)
Foundation	Non-profit philanthropic organisations donating funds to organisations or providing funding for their own charitable purposes. Includes private foundations (usually endowed by families or individuals).
Government	National governments, government departments. Also includes government parastatals (owned or controlled wholly or partly by the government)
Government development agency	Government run development agencies which provide regional or international aid
Other	Individuals or religious organisations

Each donor has their own specific demands but they mainly take the form of requirements for planning, monitoring, evaluating and reporting. Stuart (2013) indicates that particular NGOs' engagement with government has had "the effect of introducing public sector concepts and tools, such as the logframe, targets and results-based management, into the NGO sector". In fact, it is not only the logframe but logic models of all types that have become the key tool for donors to ensure standardisation and accountability across all their projects.

These demands are not particular to South African NGOs but are an international phenomenon. Kaplan & Garrett (2005:167) claim that "in recent years, many funders have begun to require that community-based initiatives develop logic models as part of their grant applications and for on-going monitoring and reporting". This statement refers to organisations that are based in America.

Many SA NGOs have limited capacity and are struggling to meet the growing demands and are resisting the use of donor models. Consultants are brought in to develop proposals or complete frameworks which make little sense to NGO staff.

Figure 1.3 shows extracts from adverts[2] on the SANGONET[3] website for training for SA NGOs in developing logical frameworks. The first extract claims that the logical framework approach (LFA) is the "most dominant planning framework in development work today" and then goes on to describe the difficulties related to variances and terminology related to these models. The second extract claims that participants will cover key issues pertaining to using logical frameworks for "planning, monitoring, evaluation and reporting (P, M, E & R)". These two extracts are examples of many such adverts on the website

….The Logical Framework Approach (LFA/ZOPP) and results-based methods are the dominant planning frameworks in development work today. They are required by many international donors and often applied to both local and international development projects. While they have different names and use different terminology, they have some essential similarities. Master one, and you master them all. Without an understanding of these methods, effective planning and fundraising become a real challenge in the present context…

◆◆◆

…To equip development practitioners with the knowledge and expertise to be able to conduct their own planning, monitoring, evaluation and reporting (PME &R) or to be able to guide project partners in doing so.
Having completed the course the participant will have:

- *An appreciation of the purpose and benefits of P, M, E & R;*
- *An improved understanding of the key concepts in P, M, E & R;*
- *An understanding of the importance of integrating M&E and reporting into project planning, and an understanding of where they fit into the project cycle;*
- *Knowledge of how to plan a project using the Logical Framework Approach;*
- *Knowledge of how to develop a result-based M&E framework….*

Figure 1.3: Extracts from adverts for training on SANGONET

[2] http://www.ngopulse.org/event/footsteps-logical-framework-approach

[3] SANGONET is the South African NGO Network and is a forum for "facilitating access, sharing information, building capacity, raising awareness, enhancing reach and impact, and linking people and organisations through the use of ICTs in Southern Africa"

which shows the pervasive nature of these models in the NGO sector and on-going demand for support by organisations in the development of donor models.

Bornstein (2006:54) describes the South African NGO and donor relationship in the following way:

> Donors increasingly dictate the terms South African NGOs must satisfy to access international funding. Most donors to South African organizations demand some form of a logical framework in an NGO's application for funding (Bornstein, 2005). They also demand reporting against that framework, with financial accounts accompanying a tabular 'progress report' on a regular (3 to 6 month) basis. The difficulty is that for many NGOs these systems make little sense (Bornstein, 2003).Many respondents from NGOs stated that the requirements were a distraction from their real work, confusing, redundant, or destructive.

In South Africa, many NGOs simply do not have the capacity or resources to develop models and use them throughout the life-cycle of a project. The use and value of the models is not uncontested - the development of both logic models and logframes is demanding, the terminology is complex (Rogers *et al.*, 2000:74) and the models are criticised for being too simplistic (den Heyer, 2001:1). NGOs feel that there are simply too many variations in model types, the models are seen to be at odds with development and the process of developing models is time-consuming. Bornstein (2006:54) points out that "when logical frameworks were first introduced in South Africa in the mid-1990s they were met with suspicion and dismissal; they are now widely used and were employed in some capacity in every NGO studied.

As governments (here and abroad) and their citizens become more demanding about proving effectiveness and performance, pressure grows on NGOs to show that their work makes a difference, that they are having an impact and that they are providing value for money. NGOs now have to prove their worth and demonstrate to their partners how funding has been used and what has been achieved. Although the demand on NGOs is certainly growing what is not understood is how NGOs and particularly SA NGOs are responding:

> Yet although the demand for information may indeed be increasing, the evaluation field actually knows very little about the way non-profit, community-based organizations are responding to these requests. (Carman, 2007:60)

1.3 Structure of thesis

This study is divided into seven chapters which are structured around the five key research questions in the following way:

Chapter 1 provides an introduction to the study and briefly examines the development of the relationship between South African NGOs and the donors that fund them

Chapter 2 describes the methods of the study

Chapter 3 is a historical review and answers the research question:

1. *What and who contributed to the development of Theory-based evaluation (TBE)?*

Chapter 4 is a historical review and answers the research question:

2. *How did the models associated with Theory-based evaluation develop over time?*

Chapter 5 is a review of models and answers the research question:

3. *What are the variations in models facing programme staff or evaluators when faced with the task of model development?*

Chapter 6 report on the findings on a survey of SA NGOs and answers the research questions:

4. *What are the demands of donors in relation to models when funding SA NGOs?*
5. *What is the practice of programme staff when faced with donor demands regarding model development?*

Chapter 7 provides an overview of the findings from the study as a whole

CHAPTER 2: RESEARCH DESIGN AND DATA COLLECTION METHODS

2.1 Introduction and overview

This chapter describes the design and methods of the study. Section1 addresses the general the research approach and research design employed in the study. Section 2 describes the methods of Chapters 3, 4 and 5 in a cluster, as these three chapters used similar methods. Section 3 provides a discussion of the survey carried out for this study.

Section 1

2.1.1 Research approach

> All research is interpretive, and we face a multiplicity of methods that are suitable for different kinds of understandings. So the traditional means of coming to grips with one's identity as a researcher by aligning oneself with a particular set of methods (or being defined in one's department as a student of "qualitative" or "quantitative" methods) is no longer very useful. If we are to go forward, we need to get rid of that distinction. (Schwandt 2000:210)

Schwandt's expresses the opinion that a distinction between qualitative and quantitative inquiry is no longer meaningful for helping us understand the purpose and means of human inquiry. This study uses "a multiplicity of methods" in order to answer five research questions, and the approach to these questions is either qualitative or quantitative (or a combination), depending on the nature of either the key research or subsidiary questions.

Figure 2.1 shows how the use of both qualitative and quantitative components of a study should be understood. This study broadly follows Srnka and Koeszegi's (2007:32) notion of a sequential nested design. The sequential nested design allows the researcher to carry out a predominantly qualitative study first, in order to understand a particular issue; in the case of this study, to identify a range of models. This is then followed up with further inquiry, using a different method on key elements of same subject. The merging of all results from the various components provides an overall picture of the

research problem. It must be emphasised, though, that a mix of both qualitative and quantitative methods were carried out in all phases.

Figure 2.1: Srnka & Koeszegi (2007:32)

Qualitative-Quantitative Research Designs			Mayring (2001)	Davies (2003)	Creswell (2003)	Creswell (1994)
Description Qualitative data and quantitative data are collected and analyzed in sequential order. *Aim* Investigate under-researched field, to develop hypotheses or create instruments for subsequent quantitative measurement, or provide explanations.	Two-studies designs	Sequential two-studies design	Prelimi-nary study model	Sequential design	Ex-ploratory/ Explanatory design	Two-phase design
Description Both, quantitative and qualitative data are collected and analyzed in separate procedures. *Aim* Cross-validate or cor-roborate findings of the two approaches.		Concurrent two-studies design	Triangula-tion model	Concurrent design/ Nested design	Triangulation design/ Nested design	Dominant less-dominant design
Description Quantitative data is analyzed using qualitative procedures. *Aim* Investigate and under-stand the problem in depth, derive new theo-retical insights.	Integrated designs	Integrated elaboration design	Elaboration model	Combina-tion design	Trans-formative design	Mixed-methodo-logy design
Description Qualitative material is collected and trans-formed into categorical data for further quanti-tative analysis. *Aim* Derive both theory and generalizable results.		Integrated generaliza-tion design	Generaliza-tion model			

Table 2.1, developed by Srnka & Koeszegi (2007:32), summarises the various mixed research designs which have been described in the literature and outlines their aims. The overview suggests that there are two broad types of mixed designs: two-studies designs and integrated designs. In a *two-studies design,* the researcher collects and analyses qualitative and quantitative data respectively, in separate (either sequential or concurrent) studies. Researchers who use an *integrated design* combine qualitative and

quantitative phases of analysis within one single study. This study, while generally following the process of the more traditional two-studies design, integrates qualitative and quantitative methods approaches when looking at any data. Table 2.1 focuses on types of data rather than analytic approaches.

2.1.2 Research design

The overarching aim of the study was to provide an in-depth and interpreted understanding of the development of logic models and logical frameworks to better understand the experience of South African NGOs when engaging with donors, and their demands for accountability through models of planning, monitoring, evaluation and reporting. The study is not only descriptive, but also analytical in that it developed various typologies to explain underlying patterns in the data reviewed (Ritchie & Lewis 2005:3-5).

2.2 Methods – literature review and model types

ATLAS.ti[4] (version 7), a computer-aided qualitative data analysis software (CAQDAS) package was used as a data management and analysis tool for the literature review (Chapters 3 and 4), and for the model and manual reviews (Chapter 5). Although there is an overlap in some of the methods, these chapters will be discussed separately in order to discuss variations in approach and purpose.

2.2.1 The review of literature (historical development of TBE and associated models)

ATLAS.ti facilitates efficient text and graphic analysis and so is a useful tool for literature reviews. It is one of a number of software packages that assist researchers in the coding and immediate retrieval of data. The programme provides the researcher with a cohesive overview of the study, which is called the hermeneutic unit (HU), and allows for engagement with a variety of formats - MSWord and PDF documents, graphics, photographs, audio files and video. ATLAS.ti also has a network-building feature, which is a conceptual space that is used to visually depict relationships between

[4] Atlas.ti stands for "Archiv fuer Technik, Lebenswelt und Alltagssprache". Translated: archive for "technology, the life world and everyday language". The extension "ti" (pronounced TEE EYE) stands for text interpretation.

selected texts, quotations and codes. Despite their seductive nature, CAQDAS programmes do not analyse data – they simply facilitate some of the mechanical tasks of managing, coding, retrieving and commenting on the data and the analysis process. As Dohan and Sanchez-Jankowski (1998:482) point out,

> The hard work in coding data is intellectual, not mechanical... [Analysts] must remain alert to the possibility that coding data with a well-designed computer program can become an end in itself; highlighting sections of text with combinations of colours or sorting and re-sorting half-coded notes can easily create the comforting appearance of progress

Using a CAQDAS programme does, however, facilitate transparent data analysis and promotes accountability. The functions of CAQDAS programmes allow for theory building, visualisation and the potential for integration of quantitative and qualitative data.

Figure 2.3 presents an overview of the literature review process which was used to examine the historical development of Theory-based evaluation (Chapter 3), and logic models and logical frameworks (Chapter 4) which was carried out using ATLAS.ti.

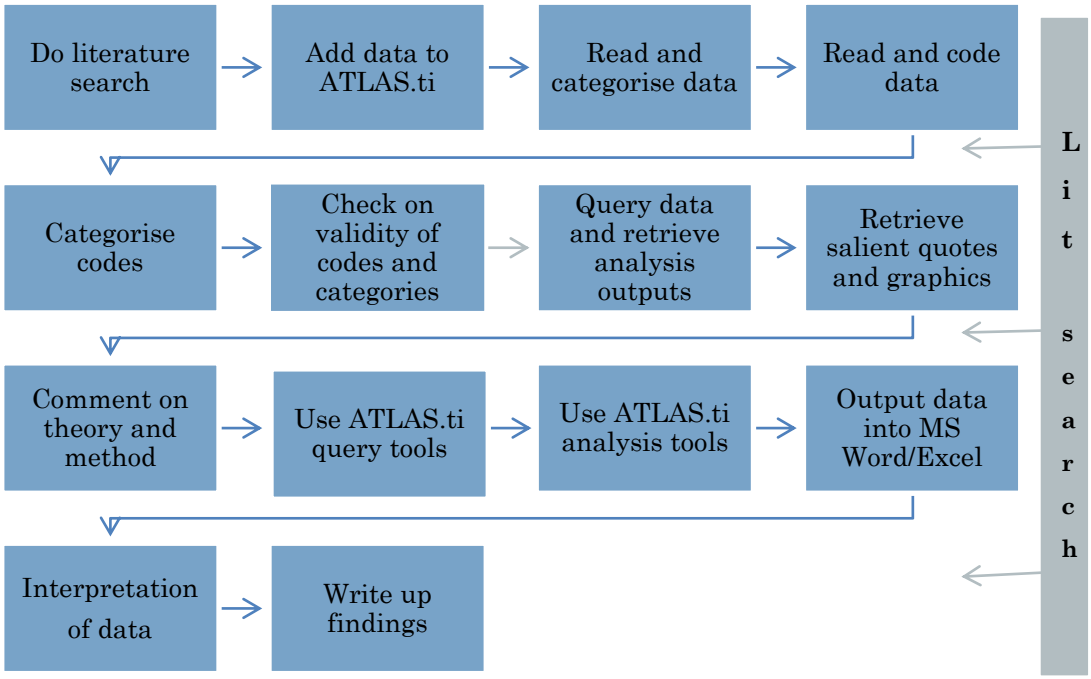

Figure 2.3: Overview of literature review process using ATLAS.ti

Although Figure 2.3 shows the literature process in a linear format, this is purely for illustrative purposes, as a literature review is an iterative process as data is added continuously, and codes and categories change constantly. It is this iterative nature of data collection and analysis that makes it so time consuming. The key steps in the process of the literature review process will each be discussed in turn.

2.2.2 Collection of studies

The literature was collected over a period of five years (from 2/8/2009 to 19/9/2013)[5]. 235 sources were collected – 155 articles, 27 LM manuals, 37 LF manuals and 16 ToC guides. The articles collected came from a range of sources – mostly evaluation journals, but also from discipline-specific articles from the health and development sector particularly.

2.2.3 Data categorisation

It soon became apparent that there were various groupings of documents within the data collected. These were placed in what ATLAS.ti terms a "family", which is simply a grouping of documents. These can be viewed and coded in isolation from the rest of the data which makes a more focused engagement possible with particular sets of documents within the data.

[5] The dates can be given so precisely as article import dates are tracked automatically in ATLAS.ti.

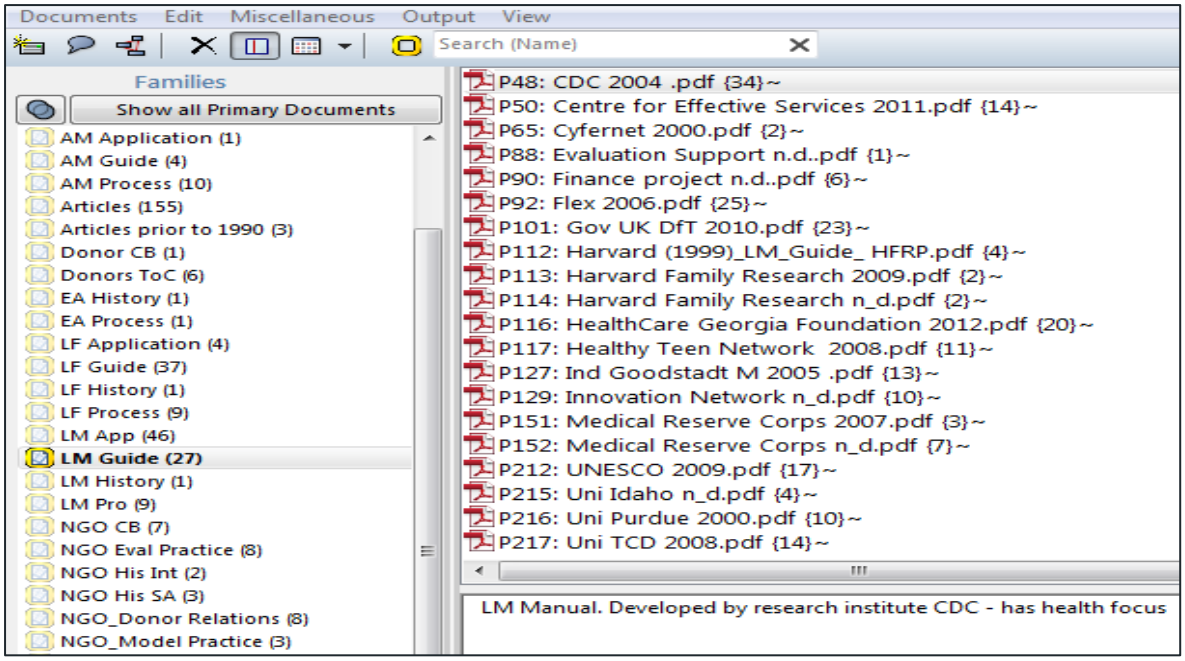

Figure 2.4: Categorising data in ATLAS.ti

Figure 2.4 shows that 27 logic model manuals were grouped together in a family called LM Guides. The number in brackets behind the family name indicates the number of documents in that particular family – thus LM Guide (27) means that there are 27 documents in this particular category. The left-hand column of the screen shows the list of families or categories that the data has been divided into. The data for the literature review was organised into 30 families/categories which cover the following five key areas:

1. History - TBE and models
2. Use - TBE and models
3. Manuals - LMs, LFs and ToCs
4. Donor – evaluation capacity, accountability
5. NGO - SA history, evaluation capacity, donor relations, model and evaluation practice.

P48: CDC 2004 .pdf {34}
Comment:
LM Manual. Developed by research institute CDC - has health focus

P50: Centre for Effective Services 2011.pdf {14}
Comment:
LM Manual. Nothing more than colourful pamphlet. No link to PT at all.
Implementation focus
LM Manual. Implementation focus. Mentions PT but only briefly. Superficial manual

P65: Cyfernet 2000.pdf {2}
Comment:
LM Manual. More of a hand-out. Developed by Cornell and Arizona. Links to United WAY LM

Figure 2.5: Output of comments from ATLAS.ti

In the bottom right hand corner of Figure 2.4 a comment is shown. The commenting function of ATLAS.ti is useful as it allows the analyst to comment on the data while he/she is reading. These comments can be summarised content as is shown in Figure 2.5 (which shows an MSWord output of the comments) or may include methodological or theoretical comments, depending on the nature of the data[6]. The summary comments allow the researcher to get a good overview of the data and can also be used in the write up of chapters.

[6] Memos are also used for collating the analyst's reflection and thoughts through the analysis process. These can be exported to MSWord and used as part of the reflection and methods section of research.

2.2.4 Coding

Qualitative content analysis is one of numerous research methods used to analyse data. It is a method of analysing data that consists of data which may have been obtained from interviews, open-ended survey questions, focus groups, observations, or print media, such as articles, books, or manuals. Social media, photographs and video footage may also be analysed using content analysis.

Qualitative content classifies large amounts of text into categories with which the researcher can more easily engage in order to develop a detailed understanding of the phenomenon under study. It was first used as a method for analysing hymns, newspaper and magazine articles, advertisements and political speeches in the 19th century (Elo & Kynga, 2008:107-108). Other methods of qualitative analysis include ethnography, grounded theory, phenomenology and historical research.

Content analysis involves the use of coding which Charmaz (1983:114) defines in the following way:

> Coding is the labeling of selected segments of textual data by means of a code (a summary term which expresses some essential quality of the phenomenon). Coding is a way of highlighting all the segments of data that can be used to answer the evaluation questions. At first the data may appear to be a mass of confusing, unrelated accounts. But by studying and coding (often I code the same materials several times just after collecting them) the researcher begins to create order.

Coding can be seen as a way of organising data for easy searching, retrieval and interpretation. Coffey and Atkinson (1996:30) indicate that although coding does allow for data reduction, it also results in data "complication". The basic method for coding is that text passages or graphics are highlighted and coded with one or more codes, so that coded text passages can be retrieved and reviewed for the purpose of interpretation. Coding can either be inductive or deductive in nature.

An analytic approach based on inductive coding moves from the specific to the general, so that particular instances are observed and then combined into a category or general statement (Elo & Kynga, 2008). Researchers immerse themselves in the data to allow "new insights" to emerge (Hsieh & Shannon, 2005:1279). An inductive approach to coding is used when the aim of the research is to describe a phenomenon (as in the

literature chapters) and where existing research is limited. It is characterised by the avoidance of preconceived categories or codes, as these are generated from the data itself.

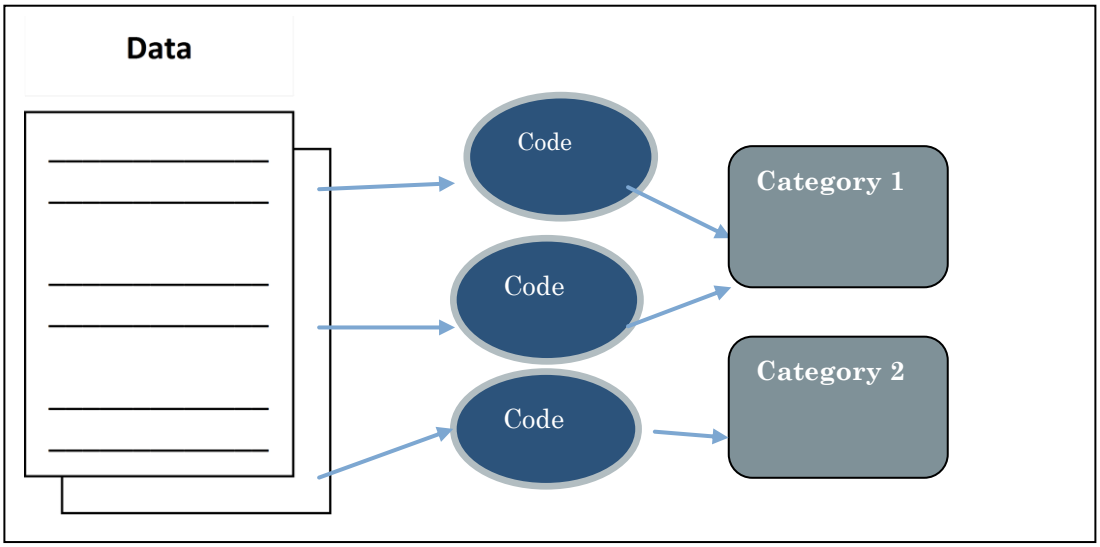

Figure 2.6: Inductive approach to coding

A deductive approach to coding is used when the aim of the analysis is" to validate or extend conceptually a theoretical framework or theory. Existing theory or research can help focus the research question. It can provide predictions about the "variables of interest or about the relationships among variables, thus helping to determine the initial coding scheme or relationships between codes" (Hsieh & Shannon, 2005:1279). Therefore, a deductive approach to coding is useful when "the structure of analysis is operationalized on the basis of previous knowledge", and therefore, it "moves from the general to the specific (Elo & Kynga, 2008:109). Deductive coding is characterised by the application of preconceived categories or codes.

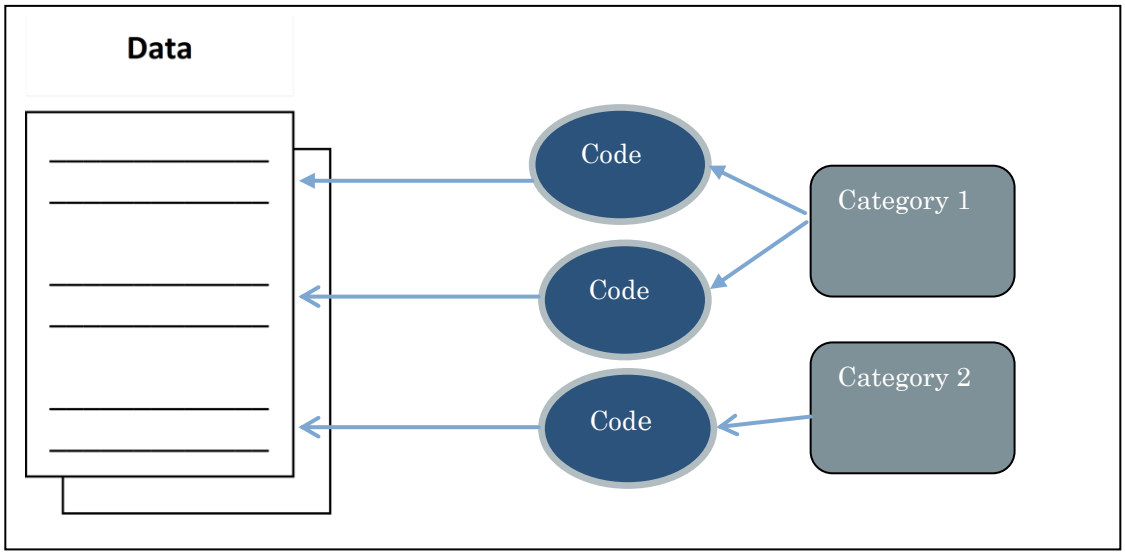

Figure 2.7: Deductive approach to coding

Although, the reading of literature influences the nature of the codes developed, an inductive approach to coding was primarily used for the literature reviews.

A code list of 139 codes was developed for the literature review, and an extract from the code list is shown in Table 2.1. The extract shows a set of sub codes, which relate to descriptions of the development of theory found in articles.

Table 2.1: Extract from code list

DEVELOPMENT
development: contingencies
development: many theories
development: one theory
development: process
development: representation
development: source of theory
development: timing

When using ATLAS.ti for a coding process, it is always best to code "finely", which means as close to the data as possible, as it is simpler to aggregate codes into higher order categories than unbundle broad categories. Codes and categories were refined often over the period of the study. No matter whether coding is inductive or deductive in

nature, the coding process is always iterative, and any new case affects the overall interpretation. This iterative process is shown in Figure 2.8.

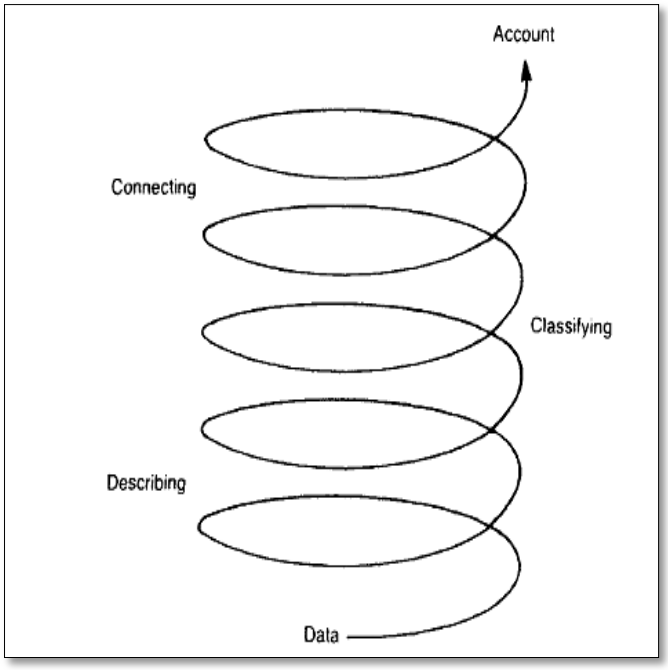

Figure 2.8: Data analysis as an iterative process Dey, I. (1993:32)

Coding is the only first step in content analysis. This is followed by the querying of data.

2.2.5 Retrieval

The most basic level of querying data in ATLAS.ti is to retrieve salient quotations that you have coded when reading relevant literature. Quotations are retrieved and labelled with the source (if that is how they were labelled originally). Quotes for the code "black box" were retrieved at the click of a button from the literature collected (219 different sources) in order to extract quotes to "describe", classify", "connect" and "account" (as per Dey's model, 1993:32) or to interpret what various authors have said about the topic. The discussion of Black- box evaluation occurs in Chapter 3 utilising these very quotes.

P204: Stame, N. (2004)_TBE_Pro_E.pdf - 204:3 [Theory-oriented approaches rep..] (2:1918-2:2083) (Super)
Codes: [benefits: black box - Family: Benefits]
No memos

Theory-oriented approaches reproach the previous, method-oriented approaches for being ineffective, given their inability (or unwillingness) to 'open the black box'

P234: Weiss, C. (1997)b_TBE_His_NDE.pdf - 234:22 [Theory-based evaluation is dem.] (11:44-11:401) (Super)
Codes: [benefits: black box - Family: Benefits]
No memos

Theory-based evaluation is demonstrating its capacity to help readers understand how and why a program works or fails to work. Knowing only outcomes, even if we know them with irreproachable validity, does not tell us enough to inform program improvement or policy revision. Evaluation needs to get inside the black box and to do so systematically.

Figure 2.9: Extracts from retrieved quotes

Others steps in the querying process are described below in the discussion of Chapter 5, in which typologies were developed.

2.3 Methods - review of model types

2.3.1 Collection of studies

For the model review (Chapter 5), models were exported from all the relevant articles and manuals collected for the two literature review chapters in ATLAS.ti, and a new MSWord document containing all the models was developed for the purpose of further coding for the typologies. This document containing all the models from the literature was then used as a basis for the development of the LM and LF typologies.

2.3.2 Coding

The approach used for the review of models in Chapter 5 was a combination of both inductive and deductive approaches, as once a set of particular model formats had emerged from inductive coding of the paradigm cases for both LMs and LFs, primarily deductive coding was used on the rest of the models in the respective groupings.

2.3.3 Queries

In order to develop the model typologies in Chapter 5, both the Co-occurrence Table and PD Table were used. These are basic quantitative tools which, based on the coding, depict co-occurrences and frequencies in the data. In Figure 2.10 some of the data that contained models that were coded as "pipeline" (a type of model described in Funnel and Rogers, 2011) was examined by querying whether these types of models included components such as activities, inputs, outputs and outcomes. The components are shown on the left-hand side of the right column. The results are shown in the right-hand side of the right-hand column. The green output refers to the actual articles/manuals where the models are found. All codes in the HU are shown in the left-hand column of the output.

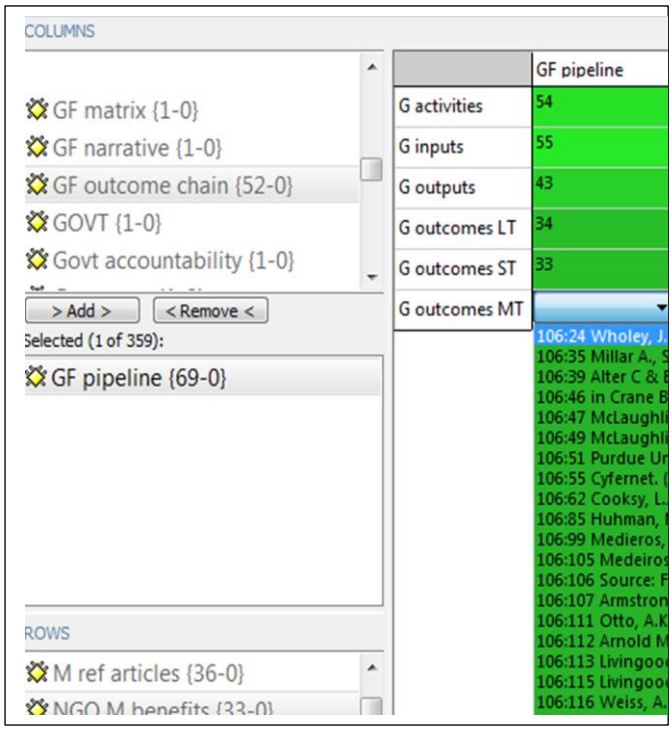

Figure 2.10: Co-occurrence output

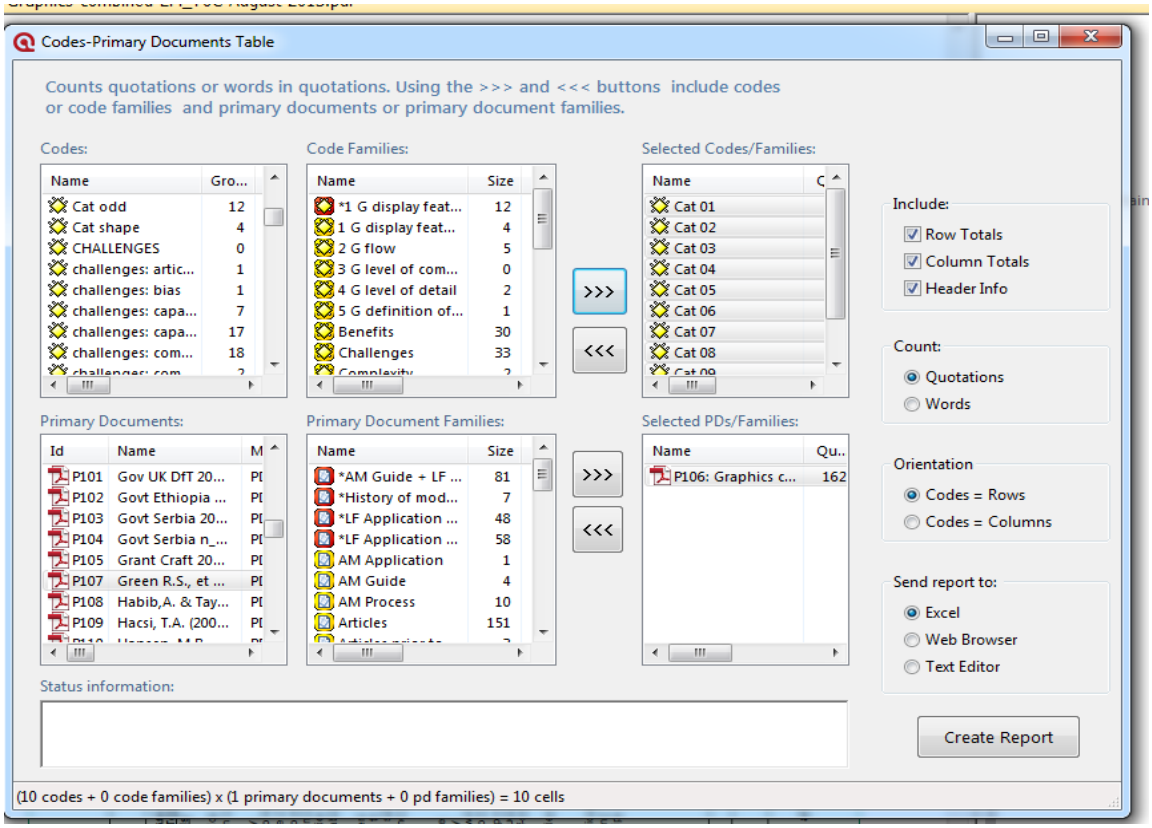

Figure 2.11: PD table showing coding frequencies

Figure 2.11 shows an output from ATLAS.ti that was used in developing the typologies for the models in Chapter 5. The frequency from each code is tabulated through this function and produced in an Excel spread sheet. These outputs were used to describe the frequency of models in each category of the LF and LM typologies.

Despite, the useful functions of ATLAS.ti, as pointed out earlier with reference to the quotation by Dohan and Sanchez-Jankowski (1998) the quality and credibility of qualitative data analysis still lies within the researcher, not the software programme. Some of the mechanical elements of analysis can be carried through the software, and certainly the whole analysis process is far more transparent and rigorous than manual processes. Unlike quantitative research which concerns itself mainly with validity and reliability, qualitative research depends on other issues as well. As Patton explains:

> The credibility issue for qualitative inquiry depends on three distinct but related inquiry elements:
>
> rigorous techniques and methods for gathering high-quality data that are carefully analysed, with attention to issues of validity, reliability, and triangulation;

> the credibility of the researcher, which is dependent on training, experience, track record, status, and presentation of self; and
>
> philosophical belief in the value of qualitative inquiry, that is, a fundamental appreciation of naturalistic inquiry, qualitative methods, inductive analysis, purposeful sampling, and holistic thinking. (Patton 1999:1190)

Concern about validity and reliability is the primary reason thick description is an essential component of the qualitative research enterprise and the use of multiple data types (primary and secondary) are critical. A survey was carried out to explore some of the key issues raised in the literature and model reviews. A discussion of this follows.

Section 3

2.4 Methods – survey

Figure 2.12 presents an overview of the survey process.

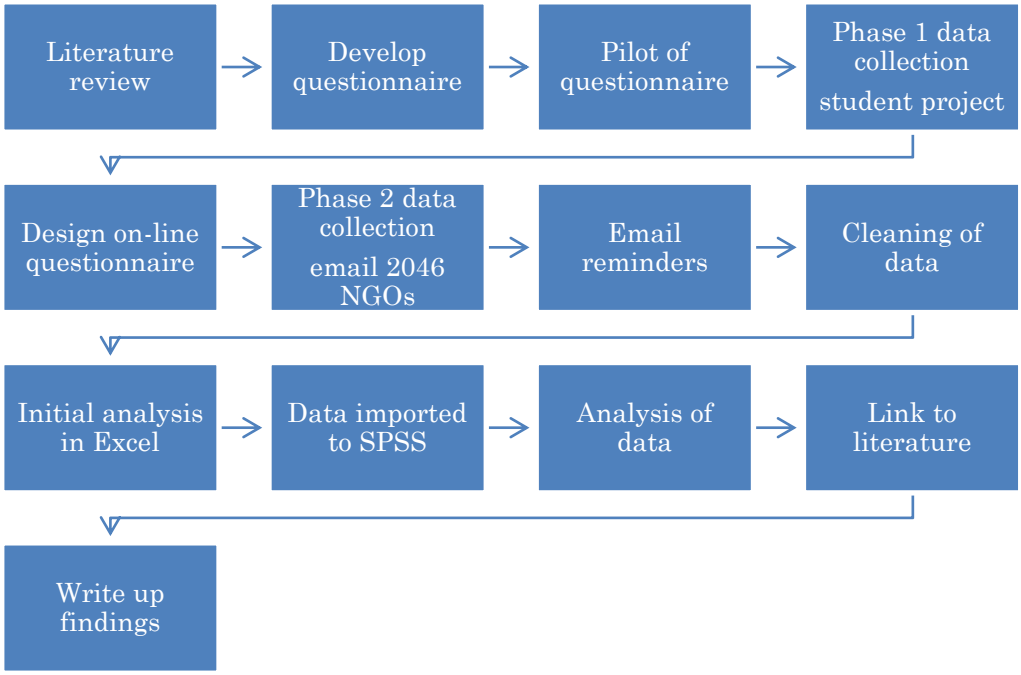

Figure 2.12: Survey process

Some of the key steps in the design and implementation of the survey are discussed in more detail below.

2.4.1 Development of questionnaire

The literature review for this study began in 2009, and two years later in 2011 the questionnaire for South African NGOs was developed and piloted. The items in the survey were based on themes emerging in the literature review, but there were three documents (two articles and a research report) that had a substantial influence on the issues explored through the survey. These were

- Bakewell and Garbutt (2005) – This was a study commissioned by SIDA which reviewed views of international development NGOs on the LFA and the ways in which these NGOs had used the LF.
- Bornstein (2006) – This was a study of 30 NGOs active in South Africa and their engagement with their funders.
- Gasper (2000) – This article examines the increasing rise in popularity of the LF but highlights the many challenges faced by NGOs in their engagement with the model.

The questionnaire used for the survey can be found in Appendix 3.

2.4.2 Expert opinion and data collection

The questionnaire was piloted with two directors of South African NGOs – Moira Jones of Wola Nani (a Cape Town based NGO dealing with HIV/Aids issues), and Meryl Schippers of the South African San Institute (a Kimberley based NGO dealing with issues related to the San people). The questionnaire was modified according to feedback received from the two organisations.

The survey was then administered in two phases. The first phase in April 2011 consisted of data collection by students from Stellenbosch University who were working towards a Postgraduate Diploma in Monitoring and Evaluation Methods. As a part of one of their assignments, the students were each required to get an NGO in their area to complete the questionnaire. Of the 88 students involved in the exercise, 50 collected data that was deemed suitable for inclusion in the analysis. Data was excluded on the basis that the NGOs were outside the borders of South Africa or that the data received was incomplete to such a degree that it could not be used.

The second phase of data collection was conducted by inviting South African NGOs to partake in the survey online. A list of South African registered NGOs was obtained through SANGOCO's online NGO directory (www.prodder.org.za). The numbers of NGOs per province and the number providing email addresses are presented in Table 2.2.

Table 2.2: NGOs registered on www.prodder.org.za with email addresses

Province	Number registered	Number with email addresses	% of registered NGOs with email addresses
Eastern Cape	282	227	80.5%
Free State	81	57	70.4%
Gauteng	652	624	95.7%
KwaZulu-Natal	373	353	94.6%
Limpopo	108	80	74.1%
Mpumalanga	81	54	66.7%
North West	87	41	47.1%
Northern Cape	33	26	78.8%
Western Cape	604	584	96.7%
Total	**2301**	**2046**	**88.9%**

NGOs which had provided an email address on the Prodder website were invited to partake in the online survey via the Stellenbosch University survey website (www.surveys.sun.ac.za). This website utilises Checkbox survey software (www.checkbox.com) and allows survey developers to design and administer online surveys, as well as store survey data. Figure 2.13 shows a screen shot of the online questionnaire.

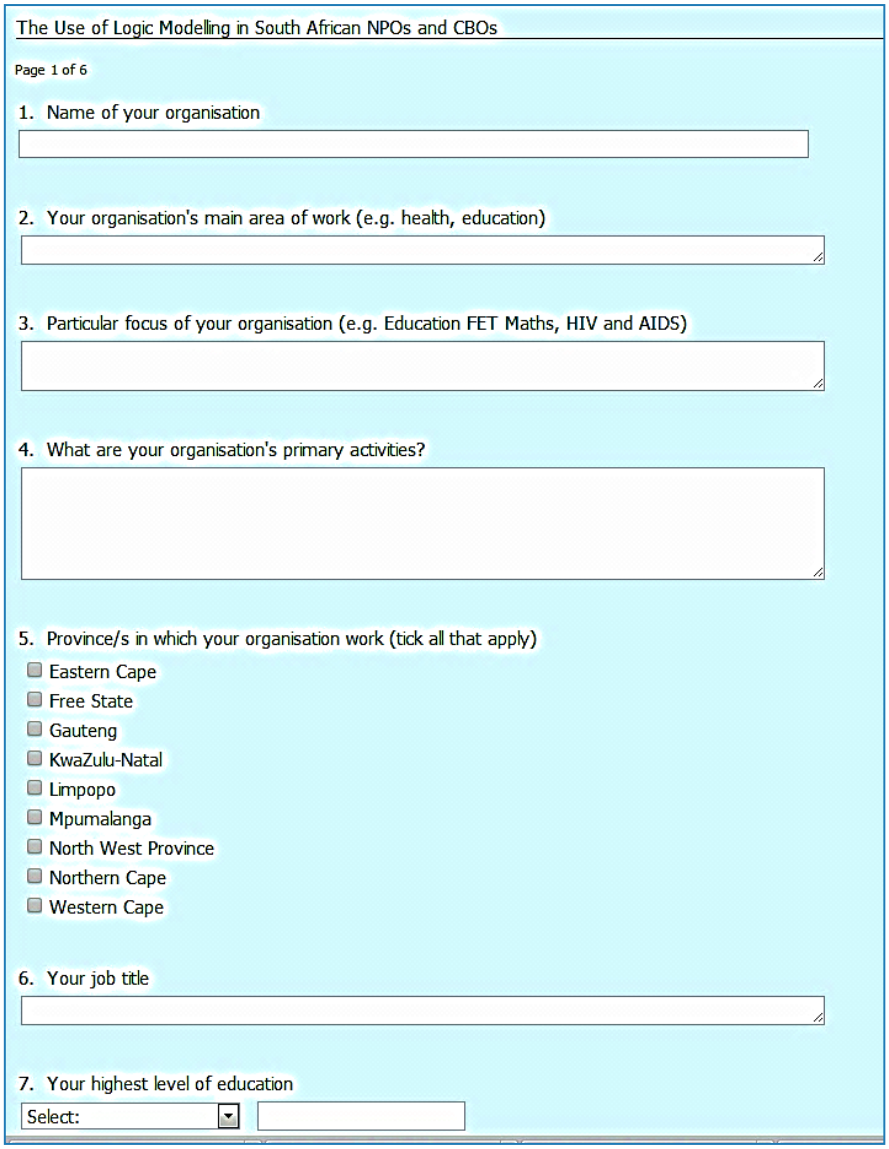

Figure 2.13: Screen shot of online questionnaire

On 12 August 2011, an invitation to complete the questionnaire was sent via the survey website to 2046 NGOs[7]. On 30 September 2011, a reminder was sent to the NGOs who had not responded to the survey. A total of 184 questionnaires were completed via the website (a response rate of 9.0%), of which 164 were included in the analysis. Again, some of the questionnaires had been passed on to other organisations outside the borders of South Africa or the data was incomplete. Some of the organisations completed the questionnaire although the content was not applicable for them, e.g. the Society for Prevention for Cruelty Animals which does not receive funding that requires the development of models such as the LF or LM.

[7] See copy in Appendix 4.

The 50 questionnaires from Phase 1 and the 164 questionnaires from Phase 2 of the data collection provided a total of 214 questionnaires which were included in the final analysis of the survey data.

2.4.3 Description of realized sample

Organisations

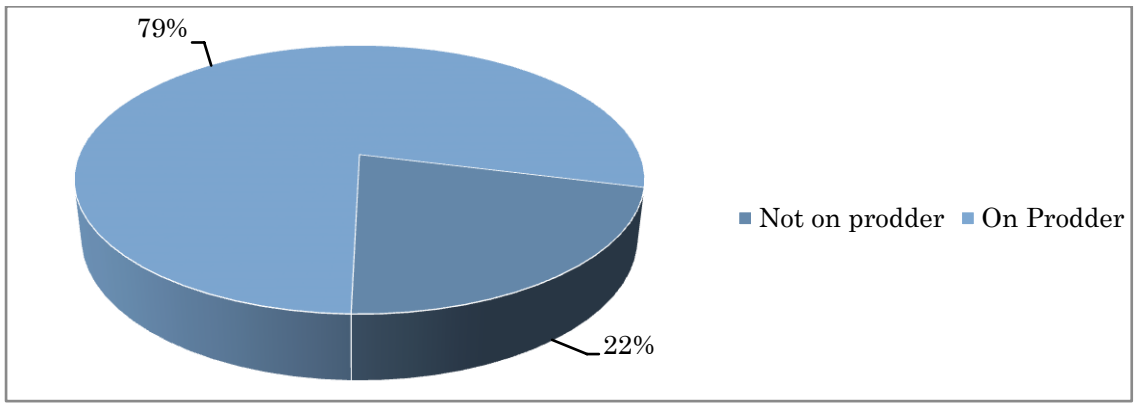

Figure 2.14: Organisations that responded to survey and that are found in Prodder Directory (n=214)

Prodder is a directory of NGOs operating in South Africa compiled by The Southern African NGO Network (SANGO Net[8]). Prodder was used to supplement the survey data collected, as all NGOs that are present in the Prodder database have to complete an input form[9] which is then available to donors and public alike. The section on the input form regarding the type of activity the organisation is involved in (question 15 on the Input Form) was used to validate Section A question 3 of the survey, as this question was completed in a manner which made it difficult to code responses.

[8] "SANGONeT is a NGO which facilitates the sharing of information about Southern African NGOs. SANGONeT's services and interventions continue to be shaped by the challenge of strengthening the capacity of NGOs in finding long-term and sustainable solutions in response to Southern Africa's development problems (http://www.ngopulse.org/about) sourced 04/07/13.
[9] See Appendix 5.

A range of organisations responded to the survey and so organisations were categorised into five categories:

1. NGO: Unspecified (these were organisations that did not indicate any of the other attributes listed in 2-4)
2. NGO: CBO (community-based organisations)
3. NGO: FBO (faith-based organisations)
4. NGO: International (organisations that had headquarters located elsewhere but work in South Africa)
5. NGO: Voluntary (organisations that focus on volunteers).

Organisational types

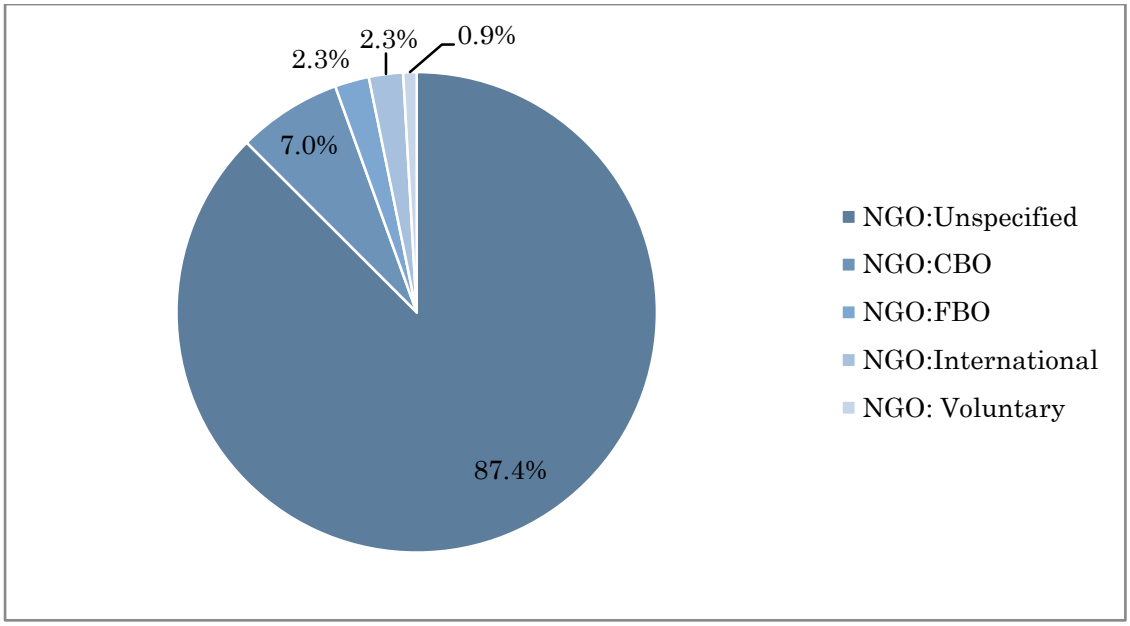

Figure 2.15: Types of NGOS n=214

Figure 2.15 shows that the greatest percentage (87.4%) of organisations represented in the sample were NGOs that did not have a particular focus or attribute, like being faith-based, community-based or focusing on volunteerism. The organisations were also predominantly South African as only 2.3% of respondents were from international organisations.

Provincial spread

Figure 2.16 shows that most of the responses came from two provinces – Gauteng (73) and the Western Cape (72).

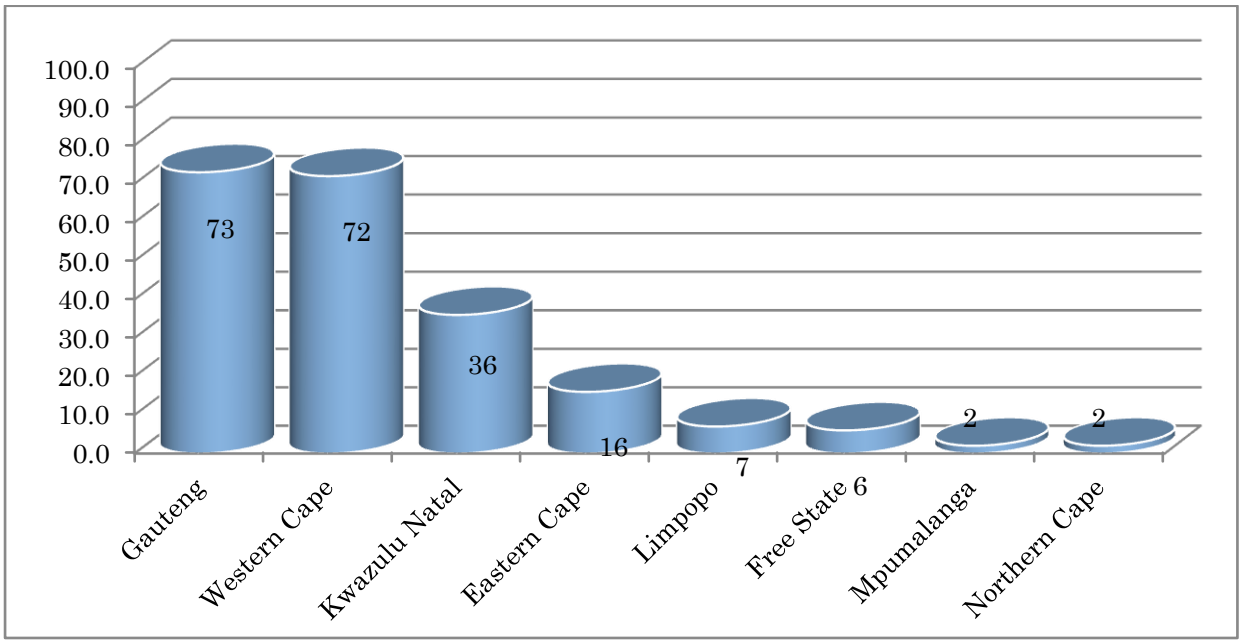

Figure 2.16: Provincial base of NGOs n=214

The provincial spread of the NGOs represented in the survey correlates with the spread of NGOs in the country as can be seen in Figure 2.17, which was derived from figures taken from the South African NGO Coalition (SANGOCO) Directory.

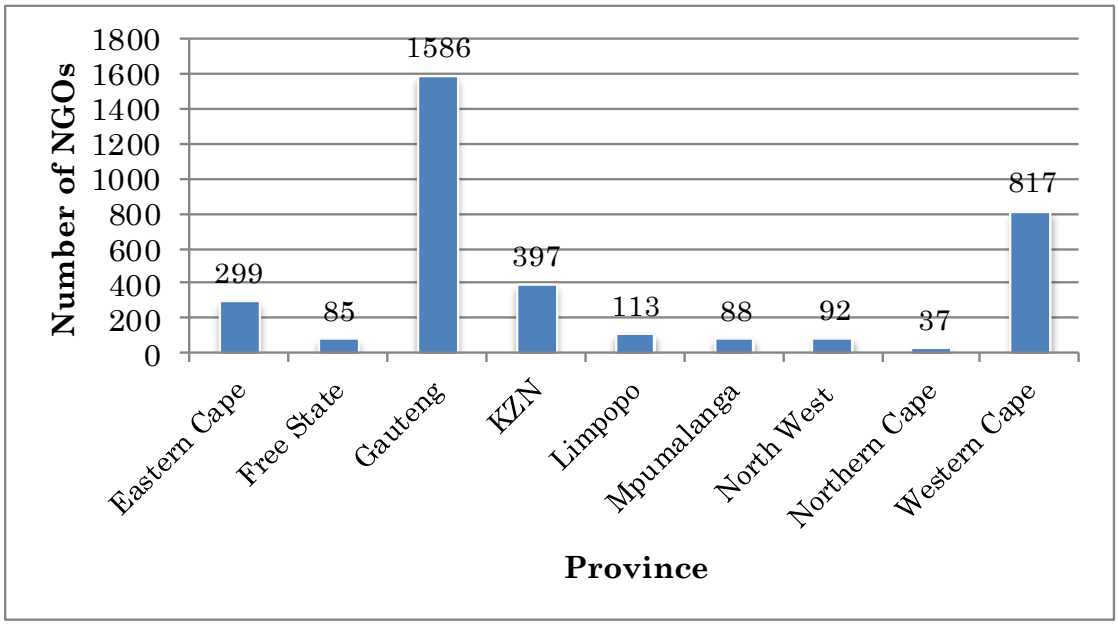

Figure 2.17: Provincial spread of NGOs in SANGOCO Directory10 (n=3514)

Geographical reach

Figure 2.18 shows that the organisations surveyed work mainly in their own province (61.7%), with a small percentage (1.9%) working in a few provinces. The rest of the organisations work nationally.

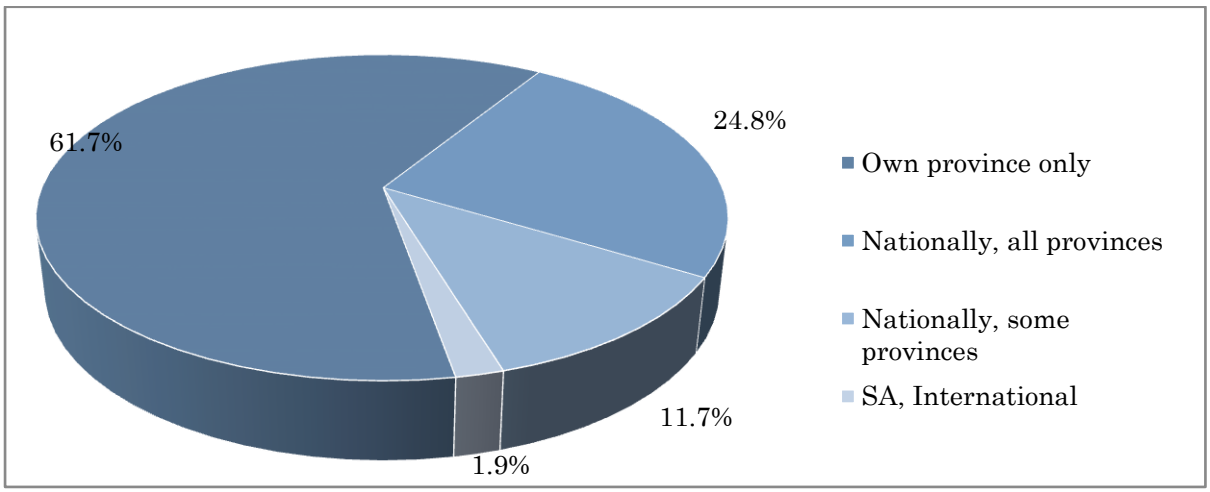

Figure 2.18: Geographical reach of NGOs in survey (n=214)

Interestingly, although most of the NGOs sampled are based in Gauteng or the Western Cape (68% of the sample), there is a more even spread with regard to the provincial

[10] Source: South African Non-Governmental Organisation Coalition (SANGOCO) Directory

coverage of interventions. While Western Cape and Gauteng still receive more interventions than other provinces, KwaZulu-Natal and the Eastern Cape receive almost as much coverage. The rest of the provinces receive much less coverage.

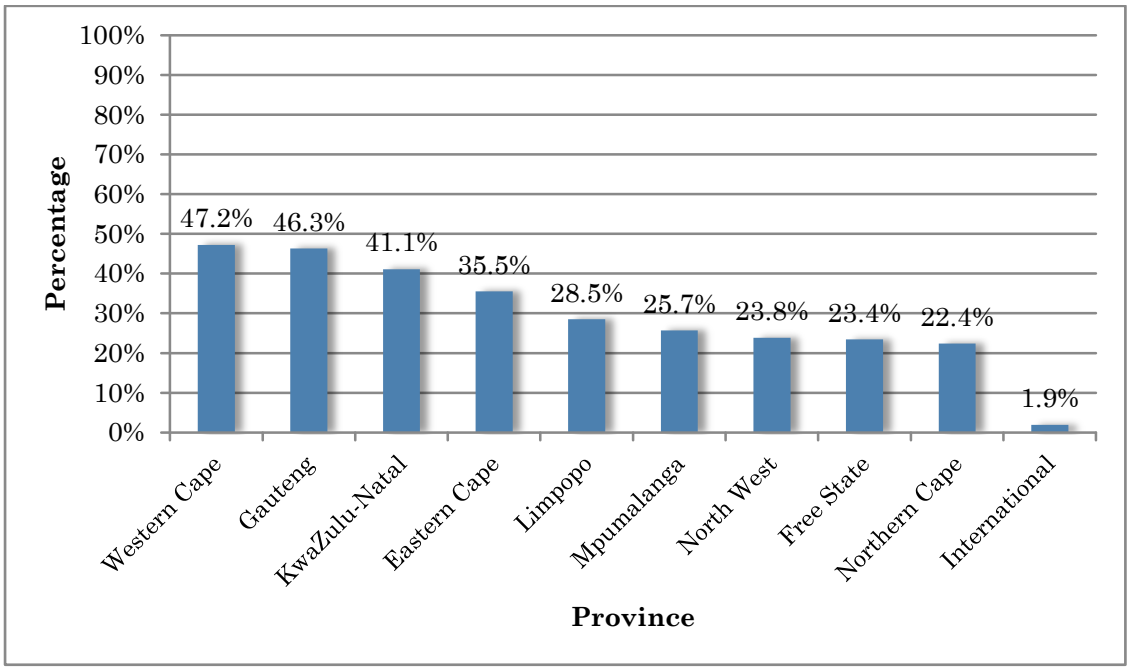

Figure 2.19: NGOs working in each province and internationally (n = 214)

Organisational activities

In order to understand the nature of organisations better, the activities of the NGOs were categorised as either operational (involving an intervention of some sort), advocacy (involving promotion of issues) or elements of both. As Figure 2.20 shows, most of the sample (64.5%) is involved in implementing interventions.

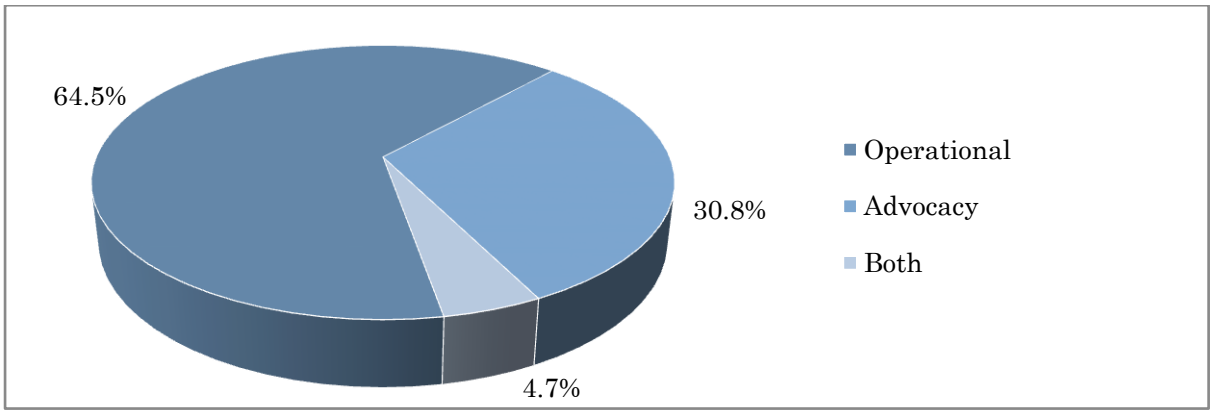

Figure 2.20: Focus of organisations (n=214)

As is shown in Figure 2.21 the organisations are involved in a wide range of activities (23), which vary greatly in nature. Training (67%), advocacy (53%) and psychosocial (43%) are the most common interventions.

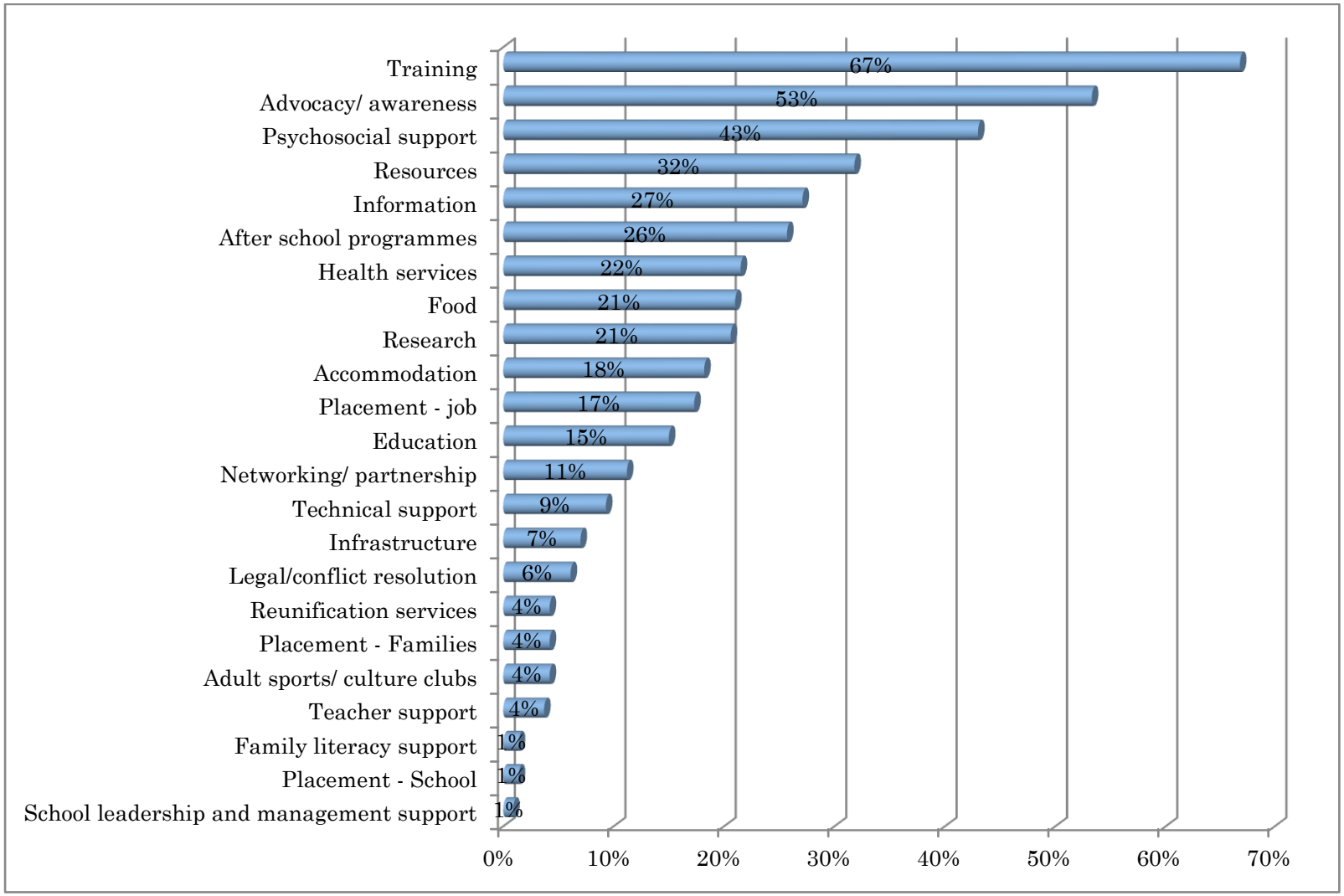

Figure 2.21: Types of intervention (n=214)

Organisational activities were further categorised into five key sectors, in order to get a sense of the focus of the organisations. Of the sample, over half (134) organisations work in the social welfare and education sector, with the health sector being the next largest grouping (35). The smallest number of organisations (9) works with environmental issues.

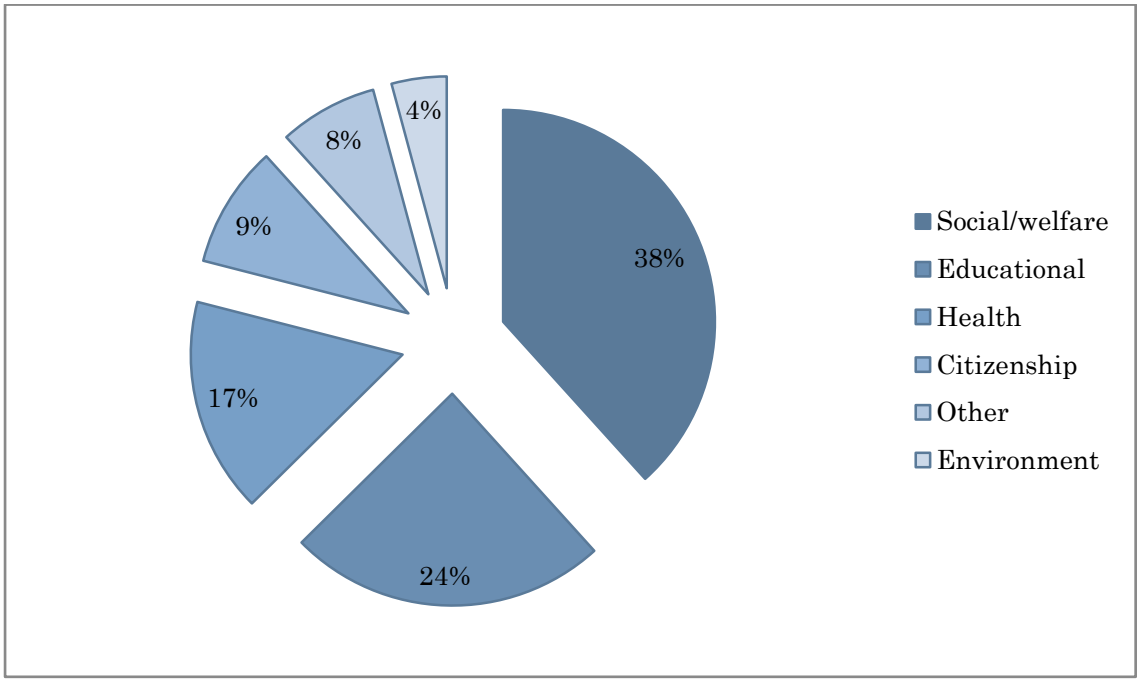

Figure 2.22: Classification of sectors n=214

2.4.4 Description of respondents

Four people did not respond to this question, but of the 210 who did it is clear that most respondents (170) were in a management position (93 managers and 77 directors). It is interesting to note that only 4 M&E officers responded. This may point to the low number of these posts in NGOs sampled, or that planning, monitoring and evaluation lies within the scope of work of management.

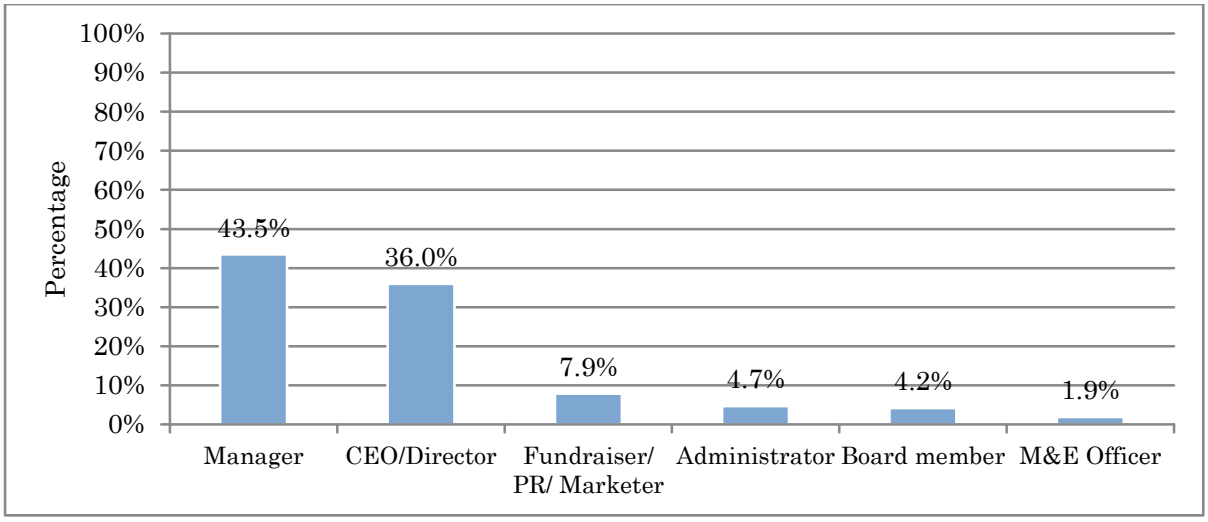

Figure 2.23: Respondents by job (n = 210)

Most of the respondents (182) or 85% had tertiary education. Only 20 had only school level education. This is shown in Figure 2.24.

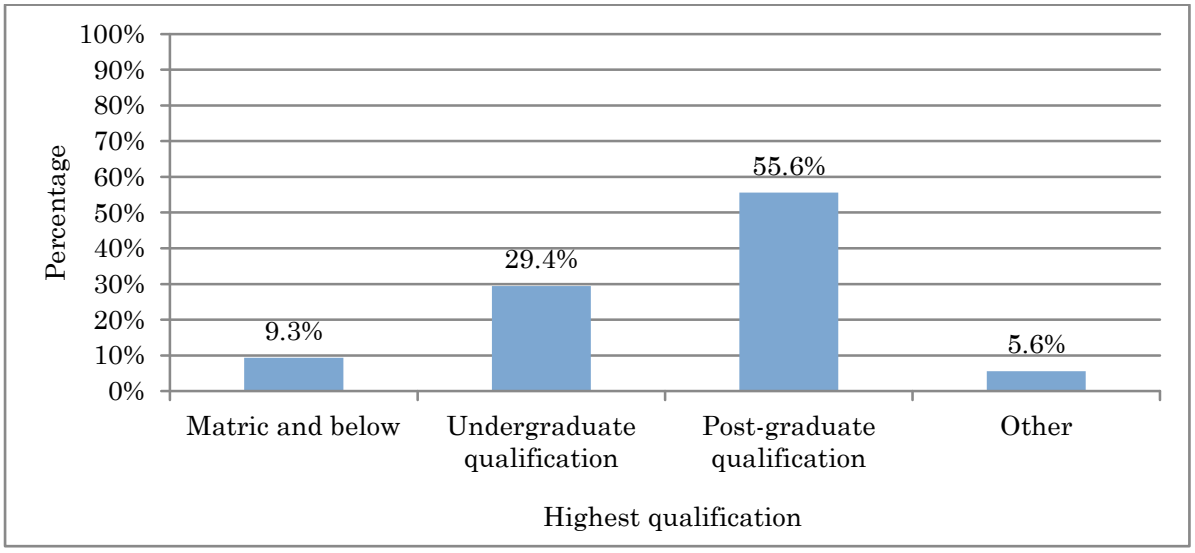

Figure 2.24: Respondents by highest qualification (n = 214)

Respondents had been in their positions for an average of 13.3 years (with a range between 1 and 42 years). Table 2.3 shows the spread of the sample across a grouping of years and this is fairly evenly spread, but the majority of respondents have over 17 years of experience in the sector in which they work.

Table 2.3: Counts of respondents by years of experience (n = 214)

Years of Experience	Count
1 - 5 years	44
6 - 10 years	51
11 - 15 years	49
16 + years	70
Total	**214**

2.4.5 Overview

Although 235 organisations responded to the web-based survey, only 214 questionnaires could be used for the study. A large number of the organisations (79%) which responded to the survey were also found on the Prodder Directory, which allowed for validation of some of the data around the location, nature and activities of the NGOs concerned. It also shows that many of the NGOs are aware of web-based support that is available to them to promote their organisations to donors, as this is one of the purposes of the Prodder Directory. Most of the NGOs that responded to the survey are from two provinces – Gauteng and Western Cape –which corresponds with the spread of NGOs across South Africa. Most of the NGOs work in their own provinces and are involved in training and advocacy, more than other activities, and in the social welfare and education sectors predominantly. The person who actually completed the questionnaire is most often from management and has a tertiary education with an average of about 13 years of experience in their sector.

2.4.6 Data analysis

The survey data was exported from the survey website to Excel for cleaning and coding. Data was analysed in Excel and SPSS. Descriptive statistics were performed on the data; particularly counts and percentage distributions for categorical data, and mean scores for continuous data. In addition some cross-tabulation with relevant demographic variables was performed.

2.5 Concluding comments: limitations of the study

As with all research there are limitations to the study which impact on the validity and reliability of the findings.

2.5.1 The literature review

The historical development of TBE and LM and LFs is not well documented. The key tests for the history of TBE were Gargani, Coryn *et al*., Nazar and some editions of the New Directions in Evaluation journal. The history of both TBE and the models had to be pieced together from these sources and the manuals produced by donors which often contained their own biases. The literature review was limited mainly to published electronic articles and manuals. Books in the field were used to frame discussions of the content of articles and manuals. In addition, evaluation is a profession where much happens in practice and is not published, but lies in grey literature in donor and organisations offices. Thus, the conclusions drawn from this study are based on those development practitioners and evaluators who publish their thinking on the notion of logic modelling and what they do in the field. The voice of the NGOs is heard mainly through a few development practitioners (like Gasper and Bornstein), but otherwise the survey of SA NGOs is where the NGOs have their say in response to the literature reviewed.

2.5.2 The typologies

The development of the LM and LF typologies were primarily based on the actual graphics from manuals and articles. A follow-up study which did a detailed content analysis of these manuals, their discourse, would be useful to contextualise each model. More research is required to try and understand the ethos of each donor and the subsequent branding of their model.

2.5.3 The survey

The survey response was within the norm of survey response rates. Through the analysis of the data it became clear that NGO staff completing the questionnaire very often could not distinguish between the models or their labels, which affected the quality

of the data. In general, though, the overall impression gained from an analysis of the survey data is that respondents took care to respond as truthfully as possible.

CHAPTER 3: LOOKING INSIDE THE BLACK BOX: A HISTORY OF THEORY-BASED EVALUATION

3.1 Introduction

This chapter focuses on the history of Theory-based Evaluation (TBE). This history has not yet been documented in great detail in evaluation literature, although valuable contributions to this endeavour have been made (Astbury & Leeuw, 2010; Cooksy, Gill & Kelly, 2001; Coryn, Noakes, Westine3& Schröter, 2011; Funnell & Rogers, 2011; Gargani, 2003; Nazar, 2006; Stame, 2004; Weiss, 1997b). This review is built significantly on the unpublished work of John Gargani and sets out a chronological study of the contributors to the development of TBE.

Coryn *et al.* (2011) claim that the origins of TBE can be traced to Ralph Tyler in the 1930s, while Funnell and Rogers (2011) argue that the first published work on utilising programme theory for evaluation was a series of four articles by Don Kirkpatrick (1958; 1960). Many evaluation scholars (Astbury & Leeuw, 2010; Bickman, 2000; Brousselle, Lamothe, Mercier, Perreault, 2007; Cooksy *et al.*, 2001; Davidson, 2000; Friedman, 2001; Hansen, M.B. & Vedung, 2010, Rogers *et al.,* 2000) state that the work of Suchman (1967) was where TBE began. Weiss (1997b) in an attempt to trace the history of TBE states that although Suchman discussed the notion of programme theory in 1967, it was her 1972 publication that first raised the idea of basing evaluation on a programme's theory.

In addition to the competitors for the original proponent of TBE, there is also a range of researchers and evaluators who compete for the title of "pioneer" of the graphics developed for representing programme theory - Stake's antecedent model (1967), Gagne's flowcharts (1968), Forrester's causal loop diagrams (1970), Stufflebeam's CIPP model (1971), Provus' discrepancy evaluation model (1971), and Weiss' path diagrams (1972) are all seen as contenders for this title.

Given all the competing claims, it would seems less interesting to try and pin the origins of TBE (or the various articulations of programme theory) on a single individual, and far more interesting to look at all those who contributed to and shaped this approach which is so widely used today (Astbury & Leeuw, 2010; Donaldson & Gooler, 2003; Fielden, Rusch, Masinda, Sands, Frankish & Evoy, 2007; Kaplan & Garrett, 2005; Mark, 1990;

Rogers, 2007; Rogers, Petrosino, Huebner, & Hacsi, 2000; Rosas, 2005; Torvatn, 1998). Following on the work of Gargani (2003), I will argue that long before the terms "theory-based evaluation", "programme theory", or "logic model" became popular, there were researchers from a range of disciplines who tried to articulate the logic underpinning a variety of activities, such as curriculum development, production and management processes.

This chapter will trace the roots of TBE and examine key contributions to its development. The discussion of the development of TBE has been divided into four key phases[11]:

1. The seeds of TBE (1909 - 1959)
2. The roots of TBE (1960 - 1979)
3. The establishment of TBE (1980 – 1999)
4. The current state of TBE (2000 -)

These phases are not discreet and contributors to one period may certainly have contributed to the next, but the four phases provide a useful framework for a discussion of the different periods of development, and the nature of the various contributions. Before the discussion of the development can begin, the concepts of TBE and programme theory need to be unpacked.

3.2 What is theory-based evaluation?

"Black-box"[12] evaluation (Bickman, 2000; Chen, 2005b; Chen & Rossi, 1997; Stame, 2004, Weiss, 2007) is a term used to describe the practice of evaluating social interventions with a strong focus on the benefits accrued in a programme, with little attention paid to how those benefits are produced. This results in very little knowledge about the mechanisms that cause change. Black box evaluation, which occurs when the process of transformation in a programme is concealed through a lack of focus on the relationship between programme components, was very prevalent in the 1960s (but

[11] Weiss (1997b) divides her discussion of TBE into three phases (past, present and future). Her delineation of phases assumes there was no contribution to TBE before Suchman.

[12] Funnell and Rogers discuss the origins of the term "black-box" and describe its links in evaluation to the flight recorders used in aeroplanes. They also raise Patton's objection to the term due to its negative connotation and his suggestion that evaluators utilise the term "empty box, magic box or mystery box" (Patton in Funnell & Rogers, 2011:4). I have continued to utilise the term "black-box" as I think the nickname given for the original flight recorders (which are actually orange in colour) vividly conjure up a visual image of secrets hidden in a dark box.

still occurs today). Chen & Rossi describe the result of black box evaluations in the following way:

> ... the outcomes of evaluation research often provide narrow and sometimes distorted understandings of programs. It is not usually clear whether the recorded failures of programs are due to the fact that the programs were built on poor conceptual foundations, usually preposterous sets of "causal mechanisms"… or because treatments were set at such low dosage levels that they could not conceivably affect any outcomes … or because programs were poorly implemented (Chen & Rossi, 1983:284).

Later, Chen (1994:18) in criticism of black-box evaluation, stated that this kind of evaluation may "show a new drug to be capable of curing a disease without providing information on the underlying mechanisms of that cure, [but] physicians will have difficulty prescribing the new drug because the conditions under which the drug will work and the likelihood of negative side effects will not be known". This was primarily a criticism of the experimental tradition in evaluation (Campbell & Stanley, 1963), which was commonplace at the time. Chen emphasised the importance of understanding the "underlying mechanisms" of change in interventions and promoted the idea of TBE as a means of extracting the set of cause-and-effect relationships in a programme.

TBE is thus an evaluation approach which opens up the "black box" of the programme logic for scrutiny and is also referred to as "glass box", "white" or "clear box" evaluation (Astbury & Leeuw 2010; Scriven 1994). Weiss (1997b:51) pointed out that evaluation needs to get "inside the black box" but added that this should be done "systematically". Evaluations which go "inside the black box" or utilise a programme's underlying theory are referred to in many different ways. The first published use of the term "theory-based evaluation" was in 1975 by Carol Taylor Fitz-Gibbon and Lynn Lyons Morris in a four page contribution to Evaluation Comment[13]:

> A theory-based evaluation of a program is one which the selection of program features to evaluate is determined by an explicit conceptualization of the program in terms of a theory, a theory which attempts to explain how the program produces the desired effects. (Fitz-Gibbon & Morris, 1975. Reprint 1996:177).

[13] A publication of The UCLA Center for the Study of Evaluation

Chen and Rossi (1980) were the first to use the term "theory-driven evaluation" while Bickman (1987), in the special edition of *New Directions for Program Evaluation* which focused on utilising programme theory in evaluation, in fact did not label this approach to evaluation as a separate type, but simply focused on the use of "programme theory" in evaluation. Following on this landmark edition of the journal, the definitions and different meanings used to describe the approach multiplied with each practitioner or theorist discussing the approach. The following table shows some of the confusing array of terms found in evaluation literature which refer to evaluation that utilises programme theory:

Table 3.1: Some of the terms used to label evaluation utilising programme theory

TERM USED	SOURCE
Chains of reasoning	Torvatn (1999)
Impact pathway analysis	Douthwaite, Kuby, van de Fliert and Schulz (2003)
Logic analysis	Brousselle *et al.* (2007)
Outcomes hierarchies	Bennett (1975)
Program logic	Funnell (1997)
Program theory	Bickman (1987, 1996)
Program theory analysis	Brousselle *et al.* (2007)
Program theory-driven evaluation	Chen (2005a)
Program theory evaluation	Rogers (2000); Stufflebeam (2011); Brouselle & Champagne (2011)
Programme theory-driven evaluation science	Donaldson (2005)
Theory- based evaluation	Fitz-Gibbon & Morris (1975); Friedman (2001); Weiss (1995, 1997a)
Theory-driven evaluation	Bledsoe & Graham (2005); Chen (1990b); Chen & Rossi (1983); Sidani & Sechrest (1999); Turnbull (2002); Worthen (2001)
Theory-led	Molas-Gallart & Davies (2006)

Also cited in Funnell and Rogers (2011:23-24) are the terms: Causal chain (Hall & O'Day, 1971); Causal map (Montibeller & Belton, 2006); Intervention Framework (Ministry of Health, NZ 2002), Intervention logic (Nagarajan & Vanheukelen, 1997) and Intervention theory (Argyris, 1970; Fishbein *et al.* 2001). Sometimes the terms listed in

the table are used interchangeably, but in other cases authors have used slightly different terms usually to distinguish their own "brand" of evaluation that utilises programme theory. Weiss (1997b), and more recently Davidson (2006) and Astbury and Leeuw (2010), make the point that proponents and authors in the field of TBE need to be more careful in their use of terminology associated[14] with TBE.

This study utilises the popular Weiss term 'Theory-based evaluation' as the notion of evaluation being "based" on theory or using theory as the foundation or starting point of the evaluation, seems most useful. The term is also broad enough to encapsulate the wide range of evaluations carried out under the banner of TBE to a greater degree than terms such as "driven" or "led". Torvatn's definition of TBE is used for this study for the same purpose – it is broad enough to cover a wide range of evaluations that are labelled as TBE:

> In short program theory is a model that describes the logic and context of the program and enables the evaluator to check on program progress and impact before the program is conducted. A program theory driven evaluation is one where the evaluator constructs a program theory and uses this theory as a guide in the evaluation process. (Torvatn, 1998:74)

Rogers, in her later work (2008), also follows this generous, all-encompassing definition (which focuses on the notion of guidance) and is not as prescriptive as other definitions. Most definitions of TBE include the idea of surfacing the assumptions/theory/theories on which the programme is based and then using this to guide the evaluation (Bickman, 1990; Birckmayer & Weiss, 2000; Brouselle & Champagne, 2011; Chen, 1990a; Chen & Rossi, 1983; Carvalho & White, 2004; Costner, 1989; Douthwaite *et al.*, 2003; Fitz-Gibbon & Morris, 1975; Mercier *et al.*, 2000; Rogers, 2000a; 2000b; 2007;2008; Sidani & Sechrest, 1999; Weiss, 1995; 1997a; 1998; 2001; Williams & Morris, 2009) [15].

Shadish, Cook and Campbell (2002) claim that most TBE approaches share three fundamental characteristics: (a) to explicate the theory of a treatment by detailing the expected relationships between inputs, processes, and short- and long-term outcomes (b) to measure all of the constructs in the theory and (c) to analyse the data to assess the extent to which the expected relationships actually occurred. Coryn *et al.* (2011) expand

[14] A discussion later on in this section deals with the various terms used to describe a programme theory or articulation of that theory.
[15] Illustrative authors have been provided in the unpacking of TBE definitions as the number of authors including particular elements is so numerous.

these three features of TBE into five: (a) theory formulation (b) theory-guided question formulation (c) theory-guided evaluation design, planning, and execution, (d) theory-guided construct measurement, and (e) causal description and causal explanation. Figure 3.1 is based on their description of TBE.

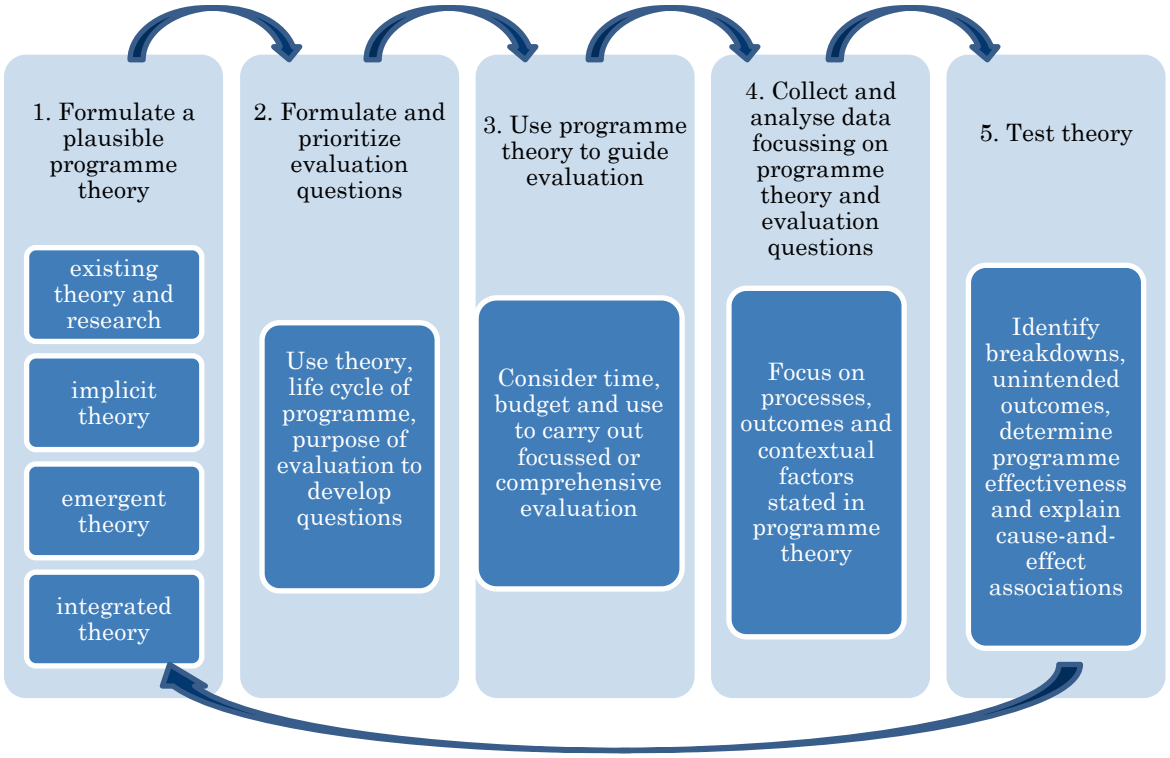

Figure 3.1: Circular TBE process (based on Coryn et al. 2011:205)

As the figure above indicates there are five key elements of the TBE process:

1. Formulate a plausible programme theory

   TBE is a form of evaluation that illuminates the set of cause-and-effect relationships in a programme. According to Coryn *et al.*, 2011 this theory can be

   - based on existing theory and research (e.g. social science);
   - implicit i.e. based on the unarticulated assumptions and experience of programme staff;
   - emergent i.e. developed from data collection (e.g. observations and interviews);
   - developed by an evaluator or
   - integrated i.e. based on the best combination of all previous types of theories listed.

These five varied sources of theory indicate that programme theory is "theory with a small t" (Chen & Rossi, 1997) rather than the type of theory developed in the natural or social sciences which is based on repeated testing and used for prediction. The first step of the TBE process, theory development, often involves the construction of a model to represent the programme theory.

2. Formulate and prioritize evaluation questions
   TBE utilises programme theory to develop evaluation questions, but the life cycle and evaluation purpose should also determine the process of prioritization of evaluation questions.

3. Use programme theory to guide evaluation
   TBE should guide the focus of the evaluation, but time, budget and the proposed use of the evaluation will also play a role in decision regarding which elements of the programme and theory are focused on during the evaluation.

4. Collect and analyse data focussing on programme theory and evaluation questions
   TBE should result in the collection and analysis of data at critical points that are primarily determined by the programme theory, but also generally by evaluation questions (Birckmayer & Weiss, 2000; Weiss, 1995; Carvalho & White, 2004; Monroe *et al.*, 2005; Torvatn, 1998)

5. Test theory
   TBE should systematically test the articulated theory (Astbury & Leeuw, 2010; Rogers *et al.*, 2000; Torvatn, 1998; Weiss, 1972, 1995, 1997b, 1998, 2001) and indicate if a breakdown occurs at a particular point in the theory (Carvalho & White, 2004; Weiss, 1995).

Other common features of TBE not covered in the Coryn *et al.* (2011) model are that TBE should distinguish between programme theory and implementation theory (Bickman, 1987; 1990; Chen & Rossi, 1992; Lipsey, 1990, 1993; Weiss, 1995), and that evaluation should not be method driven (Donaldson & Gooler, 2003; Torvatn, 1998). A discussion of programme theory and its features follows.

3.3 What is programme theory?

Bickman's early definition of programme theory as a "plausible and sensible model of how a program is supposed to work" (Bickman, 1987:5) is perhaps the simplest of all definitions. He also emphasised that programme theories are developed for a particular programme and do not represent an "off-the-shelf" use of a single, established social science theory. Chen both independently (1989, 1990a, 1990b, 1994b) and together with Rossi (1983) contributed significantly to developing an understanding of how theory is utilised in relation to programme evaluation. Chen and Rossi, like Bickman, distinguished the type of theory associated with evaluation from social science theory:

> Nor are we advocating an approach that rests exclusively on proven theoretical schema that have received wide acclaim in published social science literatures. What we are strongly advocating is the necessity for theorizing, for constructing plausible and defensible models of how programs can be expected to work before evaluating them. Indeed the theory-driven perspective is closer to what econometricians call "model specification" than more complicated and more abstract and general theories (Chen & Rossi, 1983:285)

This concern with not over-inflating the notion of theory utilised in programme theory was picked up by Weiss (1997a) and later again by Chen and Rossi (1997) who made it clear that the notion of "theory" in the context of programme theory was meant to be quite specific and relate to the causal chain of a particular intervention and not be broad or generalizable. They promoted the notion of a theory "with a small t" in the context of TBE – that is, that programme theories should not have the same weighting or status as a widely-accepted, well-researched or validated theory. However, they recommended that programme theory should be aligned to social science theory where possible:

> It is an acknowledged embarrassment to our viewpoint that social science theory is not well enough developed that appropriate theoretical frameworks and schema are ordinarily easily available off the shelf. But the absence of fully developed theory should not prevent one from using the best of what is already at hand. Most important of all, it is necessary to think theoretically, that is, to rise above the specific and the particular to develop general understandings of social phenomena (Chen & Rossi 1997:285).

Chen and Rossi (1983:285) indicate that "often enough policymakers and program designers are not social scientists, and their theories (if any) are likely to be simply the current folklore of the upper middle-brow media". This last statement pits "science"

against "folklore" in a very unfavourable way, but three years later Chen would soften his approach and acknowledge that the assumptions of programme staff were in fact a valuable source for development of a programme theory. Chen and Rossi's original stance in 1983 is described by Chen (1990) as a "social science" approach that can be seen in opposition to a "stakeholder approach" ("folklore"), which he claims Wholey advocated (Chen, 1990:11). Chen then goes on to argue for an "integrative approach", which sees the best of social science theory (where available), combined with programme staff and stakeholder assumptions. Weiss (1997a:502-3) noted that "if theory is taken to mean a set of highly general, logically interrelated propositions that claim to explain the phenomena of interest, TBE is presumptuous in its appropriation of the word". She indicated that the theory involved in TBE is much less abstract and not always generalizable. She stated that the word "model" might be more appropriate but "it has been used so often with so many different meanings that is almost void of substance."

Astbury & Leeuw (2010) distinguish between programme theory and programme logic (which are often used interchangeably by evaluators) and state that there is growing awareness (Chen, 2005b; Leeuw, 2003; Rogers, 2007; Scheirer, 1987; Weiss, 1997a) that these are different concepts.

> Program logic is often used to identify and describe the way in which a program fits together, usually in a simple sequence of inputs, activities, outputs, and outcomes. Program theory goes a step further and attempts to build an explanatory account of how the program works, with whom, and under what circumstances. Thus, program theory might be seen as an elaborated program logic model, where the emphasis is on causal explanation using the idea of "mechanisms" that are at work (Astbury & Leeuw, 2010:365).

Weiss (1997a) pointed out that a fair number of writers on TBE have mingled two kinds of theory - one about programme implementation and the other about programmatic theory. Information about implementation is useful for improving the intervention, but programme theory is about understanding the change mechanism.

Program theories are typically represented as flowcharts or tables. Such representations vary widely in their complexity and level of detail (Coryn *et al.,* 2011). There has been some criticism of the ability of these diagrams or models to represent the often complex relationships in a programme (Rogers *et al.,* 2000a, 2000), and to focus on the mechanisms of change, rather than simply the components of the implementation

process. The development of models or graphics as part of the development of TBE is discussed in Chapter 3 while their variation while be discussed in Chapter 5. The next section will focus on the key contributors to the development of TBE.

3. 4 Development of Theory-Based Evaluation (TBE

As discussed in the introduction to this chapter, evaluation scholars do not agree on the point of origin of TBE. Suchman, Weiss, Wholey, Chen and Rossi have all been put forward as contenders for this position. Gargani (2003) argues that researchers from a range of sectors (business, management, education and evaluation) have recommended for almost a hundred years that causal assumptions should be articulated and tested. He describes the work of researchers who believed in the importance of understanding what lies behind the surface of an activity or programme for the purpose of improvement and makes a strong case for dispersed roots of TBE. This thesis builds on Gargani's argument that there is evidence in the work of early evaluators and fields other than evaluation that can be regarded as the origins of TBE - well before 1967 when Suchman or any other evaluator proposed the inclusion of using programme theory in evaluation.

3.4.1. Phase 1: The seeds of TBE (1909 -1959)

Taylor - Scientific Management

At the beginning of the twentieth century, Frederick Winslow Taylor (1911) argued that business and management processes could be broken down into distinct parts, analysed and re-organised into pathways that were most effective in terms of time and productivity. He claimed that managers put too much emphasis on output and insufficient emphasis on the processes involved in the development of the output. He recommended that managers draw up a plan for implementation and then choose the best method for a particular task based on an analysis of the possible pathways available (Freedman, 1992). He called his attempt to apply a scientific approach to business and management processes, "Scientific Management". He advocated standardisation of procedures after careful analysis of all the steps in a work process, and claimed that it was only the manager equipped with a scientific disposition to "search for general laws or rules" who could understand the true science of work" (Freedman 1992:27).

The analysis of the work process was termed "job analysis" (Erdis & Ozel, 2010) and involved developing a clear understanding of a task, particularly its various components and how they were linked to one another, so that the best possible organisation of the components of that task could occur for maximum benefit. Figure 3.2 shows the three stages involved in job analysis – the first involves preparing (Input - Preliminary Preparations) for the analysis task and requires developing an understanding of the task. The second stage (Process - Analysis) requires collecting data on the various components of the task, while the final stage focuses on the results of the analysis - the data collected, which is then utilised to develop job standards based on an improved work flow. Preventative measures are also put in place where necessary. The figure shows a distinct emphasis on feedback - between the various stages and from the final stage to the beginning of the analysis process.

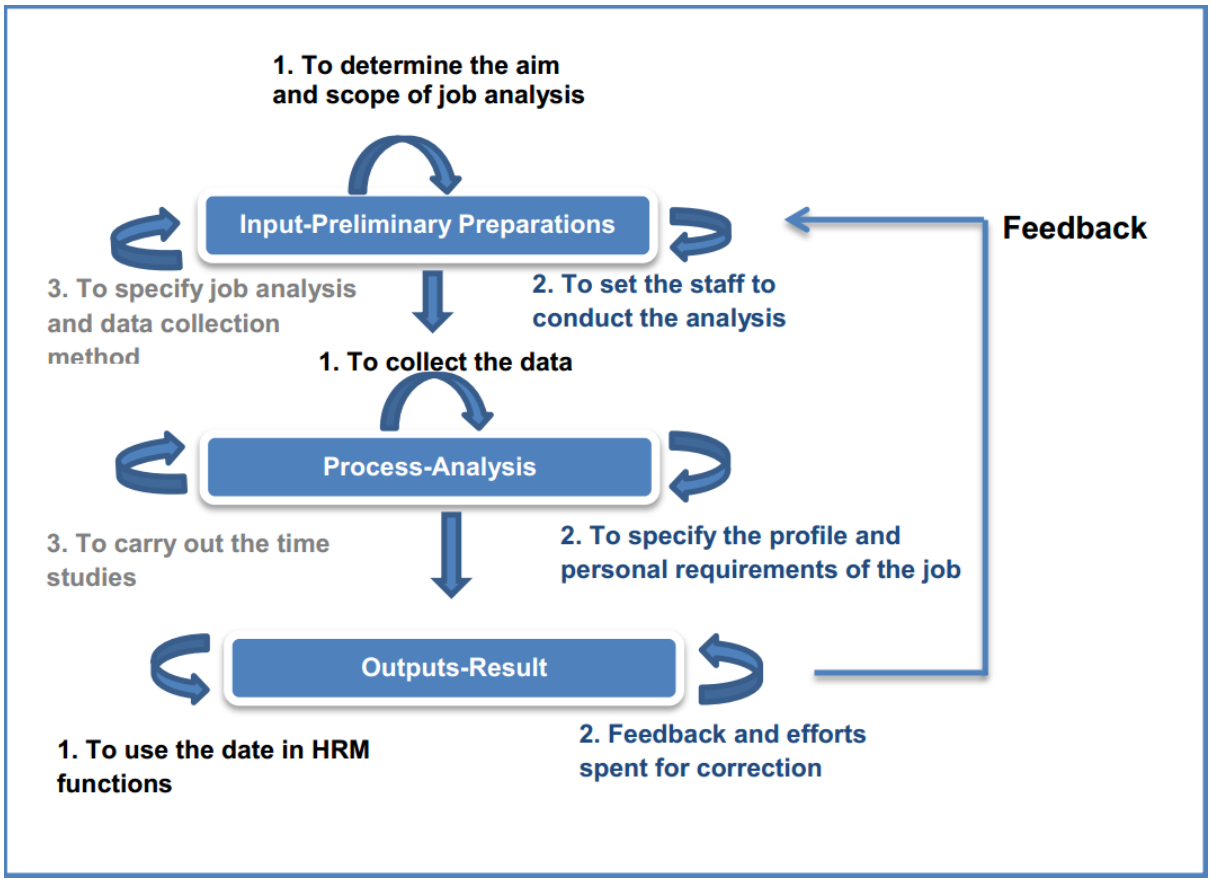

Figure 3.2: A representation of the job analysis process (Erdis & Ozel, 2010:3263)

Taylor's ideas shaped the concept of management and project management tasks indefinitely, but they were not without criticism. From a management perspective, the Scientific Management movement was successful because it improved efficiency and

increased profit, but those representing labour criticised the movement because it focused mainly on the distinct components of production and very little on the workers, which was seen as dehumanising. Despite this criticism, Scientific Management was the most popular management idea of its time, and was soon endorsed by the private sector (Gargani, 2003). Taylor importantly separated planning of work from the actual implementation and focused on disparate parts of production in order to understand the whole task more fully. This separation of planning from implementation can be seen not only as an important contribution to management processes but also to evaluation which follows the life-cycle of any programme or project.

Taylor's work, and indeed the Scientific Management movement in general, can be viewed as the seeds of programme theory and TBE; both Scientific Management and TBE focus on the unpacking, understanding and articulation of processes. The articulation of the best possible organisation of the components of the work process can be compared to the articulation of the best possible organisation of programme components. This articulation of the programme process can be linked to Coryn *et al.*'s (2011) first step of TBE – to formulate a plausible programme theory. The key connection between TBE and Taylor's work is predominantly the articulation of separate elements of a process, and the focus on a particular component in order to understand its value and placement in a process. Of course, Scientific Management focuses on efficiency rather than causal processes, so the connection between the two concepts is tenuous but the focus of many models which claim to depict programme theory in fact focus simply on the sequence or organisation of programme components.

Bobbitt and Charters – Scientific Curriculum

During this period, the idea of applying scientific principles to a domain outside of science was not limited to business but was seen in the field of curriculum development as well. The introduction of behavioural objectives as a way of organising instruction has been attributed to the writings of Franklin Bobbitt and W.W. Charters (cited in Januszewski, 2001). Bobbitt posited the idea of scientific curriculum in an article (1913) and developed this further in his book *The Curriculum* (1918), which provided a scientific and theoretical rationale for curriculum based on Taylor's concept of Scientific Management. Both Bobbitt and Charters believed a scientific approach to curriculum would be as successful as its application to management. Bobbitt (1913, 1918) drew from the fields of business and economics for his work on curriculum. He built on the work of

Taylor and applied business thinking to curriculum (Snow & Wiley, 1991). He developed the concept of behavioural objectives, and maintained that it was the task of the curriculum developer to define the major fields of adult experience and analyse them into objectives. He believed that it was important to find the best workers in every profession in a community and then study them to see what makes them efficient. Researchers should then observe these key workers over long periods of time to collect a large amount of data on how they work. This data would then inform the development of the curriculum for that particular field of work. Bobbitt was criticised for his narrow approach and his linking of curriculum to economics principles so closely (Null, 2011).

The idea of applying scientific principles to education was also taken up by W.W. Charters in his *Methods teaching* (1909, 1913a 1922, 1923). Utilising the ideas of Taylor and Bobbitt, Charters presented a top-down, goal-focused view of teaching – where school managers and administrators develop goals for schools, with very clear curricula to meet the goals specified – much like the "job analysis" work of Taylor. Charters described how educational experts could organise the work of schools around the goals that they established by implementing "activity analysis", a concept developed by Bobbitt:

> This is primarily what activity analysis attempts to do in the field of curriculum construction. The activities in connection with which a subject may be used are analysed to discover exactly what the individual is to do and then the subject material necessary to assist in the performance of these activities is collected and organized (cited in Charters, 1922:358).

This was very similar to Taylor's advocacy for "job analysis", but it soon became clear that tasks like teaching, which were "non-sequential", were much harder to analyse and articulate:

> For sequential jobs, the usual procedure followed by the job analyst is to obtain from each of several operators in separate interviews a list of his duties, to combine these, to resubmit the list to them, and to have it checked by the foreman. In non-sequential jobs the same procedure is used as a basis but from knowledge born of experience, the analyst finds that he needs to make a supplementary analysis by long continued personal observation of the operations and in some cases by a long continued performance of the job. A case in point is that of the analysis of salesmanship which was made by us last year. Interviews were held with many salespeople for the purpose of obtaining a list of their difficulties; to this were added interviews with

> several managers and superintendents; but so little was obtained from these sources that a member of our staff with competent experience in selling, had to be detailed to watch salespeople at work daily for three months before we felt that we had a reasonably accurate list of the duties of retail selling. In other words, the analysis of non-sequential jobs is much more difficult than that of sequential (cited in Charters, 1922:360-361).

Charters' description is fascinating as he describes how, in order to understand the non-sequential task of "salesmanship"; interviews were carried out with salespeople but when this approach proves unsatisfactory, Charters uses "observation" (social science research methods) for three months to understand the task. This is a good example of Chen's call "to think theoretically, that is, to rise above the specific and the particular to develop general understandings of social phenomena (Chen & Rossi 1997:285).

Charters' version of activity analysis differed from those of his contemporaries largely in terms of the emphasis that he placed on the inclusion of social ideals in the curriculum. In 1923 Charters articulated seven "rules" that governed curriculum construction:

- Identify major educational aims through a study of contemporary social circumstances.
- Classify the major aims into ideals and activities and reduce them to operational objectives.
- Prioritize the aims and objectives.
- Reprioritize the aims and objectives to lend greater importance to those relevant to children's experience than to those relevant to adults but remote from children.
- Identify those aims and objectives achievable within the constraints of the school setting, relegating those best accomplished outside the school to extra-school experiences.
- Identify materials and method conducive to the achievement of the selected aims and objectives.
- Order materials and methods consistent with principles of child psychology.[16]

Charters' seven rules included aims, objectives, ideals, activities, materials and constraints – some of the key components of interventions and often included in the models associated with TBE. His activity analysis could also be described as "backward mapping" as it involved tracing causal paths from outcomes back to intermediate

[16] http://education.stateuniversity.com/pages/1821/Charters-W-W-1875-1952.html (sourced 17/10/11)

outcomes, and finally to programme activities (Gargani, 2003). Backward mapping is an activity now closely associated with developing theories of change and involves a specification of the desired endpoint or outcome and then works backwards to determine what must be done to achieve that endpoint[17].

Bobbitt and Charters did not agree on the source of objectives which Charters had advocated. Bobbitt's approach was to discover curriculum objectives by "scientific analysis" i.e. what people should do, could be identified by what they do (Bobbitt, 1913:100) and he focussed on the value of input from teachers on what the curriculum should contain. Charters viewed activity analysis as a means of unpacking curriculum objectives but incorporated social ideals into that process and so linked schools to economic processes and the labour market.

The work of Taylor, Charters and Bobbitt involved understanding and analysing activities and then planning on the basis of this understanding – these are key components of TBE. The debates begun in this period over the source of objectives and who (or what) should be involved in the process of contributing to an understanding of the most effective components of a process (and their sequence) is a debate which continues today, not only in the circles of TBE practitioners, but evaluators generally. The debate that raged between Charters and Bobbitt can certainly be viewed as a precursor to the debate that would rage in the future among TBE theorists about the most appropriate source of programme theories – stakeholders (as advocated by Wholey) or social science theory (as advocated in the early work of Chen & Rossi). Charters' approach to curriculum construction influenced a generation of curriculum scholars, including Ralph W. Tyler who is often referred to as the "father of evaluation" (Nowakowski, 1983:25).

[17] An example of backward mapping can be seen at http://www.theoryofchange.org/what-is-theory-of-change/how-does-theory-of-change-work/example/backwards-mapping/#2 (sourced 11/02/12).This webpage provides on line support for those involved in developing theories of change.

Tyler – Testing the major hypotheses

The legacy of Taylor, Charters and Bobbitt - the scientific curriculum and management movements - made its way into evaluation in a distinct way through the work of Ralph W. Tyler. Tyler demonstrated how educational programmes were based on complex causal assumptions, and he argued that those underlying assumptions should be articulated and tested in order to improve programmes. Tyler coined the term evaluation[18] around 1930 in order to differentiate this from what he considered to be the standard practice of testing. His approach to evaluation has been described as "Performance-Objectives Congruence" (Worthen, 1990:43), which means that broad goals or objectives would be established or identified initially, defined in behavioural terms, and relevant student behaviour would be measured against this yardstick, using either standardised or evaluator-constructed instruments. This outcome data would be compared to the original objectives set to determine the extent to which performance was "congruent" or in line with expectations. Discrepancies between performance and objectives would lead to modifications intended to correct the deficiency, and the evaluation cycle would be repeated. Tyler worked with teachers to articulate the complex causal assumptions underlying teaching practices. His involvement of teachers in the evaluation process was an important step that ensured that the notion of participation with stakeholders and articulation of causal relationships was put firmly on the management and evaluation maps. The seeds of TBE had been planted.

By 1942, when he published his report on the evaluation of the Eight-Year Study he argued that untangling complex causality was a critical role for all evaluators:

> A very important purpose of evaluation which is frequently not recognized is to validate hypotheses upon which the educational institution operates. A school, whether called "traditional" or "progressive," organizes its curriculum on the basis of a plan which seems to the staff to be satisfactory, but in reality not enough is yet known about curriculum construction to be sure that a given plan will work satisfactorily in a particular community. On that account, the curriculum of every school is based upon hypotheses, that is, the best judgments the staff can make based on available information. In some cases these hypotheses are not valid, and the educational institution may continue for years utilizing a poorly organized curriculum because no careful evaluation has been made to check the validity of its

[18] "Because the term 'test' usually was interpreted as a collection of memory items, I suggested the use of the term 'evaluation' to refer to investigating what students were really learning," (Tyler in interview with Nowakowski, 1981:8).

> hypotheses.... Every educational institution has the responsibility of testing the major hypotheses upon which it operates and of adding to the fund of tested principles upon which schools may better operate in the future. (in Smith & Tyler, 1942:7-8)

In other words, Tyler was advocating for "testing the major hypotheses of the curriculum" (a programme theory) and then "testing the major hypotheses upon which it operates" (carrying out an evaluation in order to test that theory) although the discourse of TBE was not yet in use. Tyler proposed a seven-step procedure to validate the hypotheses:

1. Formulate objectives
2. Classify objectives
3. Define objectives in terms of behaviour
4. Suggest situations in which the achievement of objectives will be shown
5. Select and try promising evaluation methods
6. Develop and approve appraisal methods
7. Interpret results. (Gargani 2003:23)

Tyler, building on Charter's seven rules for curriculum construction, focused on articulated objectives in his seven-step process for validating the hypotheses of the curriculum. Gargani (2003:24) points out that the second step (classification of objectives) in Tyler's seven step procedure, "took on a life of its own, most notably in the elaborate hierarchies of objectives constructed by Tyler's protégé Bloom (1956) and colleague Gagne (1962) Tyler's seven-step procedure can therefore be seen as a forerunner of the "chain of objectives" – a term later coined by Suchman (1967:55).

Bloom – Educational objectives

Tyler mentored Benjamin Bloom at the University of Chicago where they worked together (Eisner, 2000) and Bloom began using Tyler's seven-step process to develop a method of organising educational objectives according to their cognitive complexity (Bloom & Axelrod, 1948). There were indications that the process was complicated – more complicated than Tyler's work on testing the assumptions behind a curriculum, especially the issue of who should be involved in the classification of objectives and the source of these objectives (whether this should be staff, prior research, political agendas, or policy). Bloom was in fact dealing with the unresolved debates that had occurred between Charters and Bobbitt.

Bloom eventually developed a taxonomy of cognitive learning objectives consisting of six categories: knowledge, comprehension, application, analysis, synthesis and evaluation (Bloom as cited by Karns, Burton & Martin, 1983). This is shown in Table 3.2.

Table 3.2: Bloom's Taxonomy of Educational Objectives (Karns *et al.*, 1983:18-19)

Level 1: Knowledge	**The knowledge level of learning is achieved by rote memory of simple rules, facts, terminologies, sequences, and principles.**
Level 2: Comprehension	Comprehension involves the translation of one level of abstraction to another. Here the student restates a problem in his or her own words, gives an example of a principle, or extrapolates a trend.
Level 3: Application	To achieve the application level of learning a student must be able to apply a principle to some new problem.
Level 4: Analysis	Analysis involves the breakdown of a communication into its constituent elements, finding assumptions, identifying causal relationships, and distinguishing facts from opinions.
Level 5: Synthesis	Synthesis learning is achieved when the student can synthesize knowledge and develop a hypothesis or theory of his or her own.
Level 6: Evaluation	Evaluation which demands value judgments evolving from critical evaluation of information and theories. This requires the ability to detect fallacious arguments and to evaluate theories based on internal consistency and external standards.

The taxonomy shown above is built on the idea that cognitive operations can be ordered into six increasingly complex levels (with Level 6 being the most complex). Each level (from Level 2) depends upon the student's ability to perform at the levels that precede it. By the end of the 1940s, hierarchies of objectives were being constructed and used by evaluators but the approach was complex and the uptake of objective-based evaluation was not a strong development in evaluation at this point in time.

MacMahon and Hutchison – Evaluation of accomplishment and technic

Evaluations in the field of health in the 1950s by Brian MacMahon and George Hutchison reaffirmed Tyler's belief in testing the hypotheses of a programme. Mac Mahon claimed that "in order to evaluate a program it is necessary to state ahead of time the results which are anticipated, and to compare them with the results actually observed" (MacMahon, Pugh & Hutchinson, 1961:966).

These two evaluators distinguished between two kinds of evaluation - namely *evaluation of accomplishment* which they described in the following way:

> The first general category of evaluatory studies consists of those designed to test the hypothesis that a certain practice, if successfully carried out within specified limits, has a measurable beneficial outcome in the group on whom it is practiced; for example, to test the idea that surgical removal of the affected breast leads to a lengthening of life among patients with breast cancer. This process we will refer to as evaluation of accomplishment. Effective studies of this variety are by far the less common of the two types of evaluation. In the field of community mental health they are conspicuous by their absence.

and *evaluation of technic* which they described as:

> The second category comprises studies designed to find out whether a supposedly therapeutic or preventive practice is in fact being carried out within specified limits - for example, are cancerous breasts being removed in accordance with criteria established as "good surgical practice." This process we refer to as "evaluation of technic." In evaluation of technic, cause and effect are not at issue - the procedure is concerned merely with the description of the quality of the events of which the technic is comprised. Compared with evaluation of accomplishment, evaluation of technic is relatively easy, and much has been done in this area (MacMahon et al., 1961:964)

MacMahon's *evaluation of accomplishment* can be seen to be aligned with what evaluators would now call *outcome evaluation*, and the evaluation of technic would be *process evaluation*. It is important to note that MacMahon called for a testing of the hypothesis or idea of an intervention. The idea of testing *theory* had not yet been labelled as such. It is interesting to note that MacMahon's idea of testing for a hypothesis was taken up much later in the work of Pawson and Tilley in their development of particular brand of TBE, Realist Evaluation, which explicitly states that evaluations test interventions as *hypotheses* (Pawson & Tilley, 2004:10). Another noticeable element of their description of the two types of evaluation is that the evaluation of accomplishment focuses on causal relationships while the evaluation of technic does not.

MacMahon's distinction between the two types of evaluation was not new - Hutchison had previously drawn attention to the distinction using different terminology. He distinguished the *evaluation of intermediate objectives* MacMahon's *technic* from the

evaluation of ultimate objectives (MacMahon's *accomplishment*) (MacMahon *et al.*, 1961:964). MacMahon highlighted the fact that although outcome evaluations were considered far more important, primarily process evaluations were being carried out at the time. Gargani, (2003:23) notes that MacMahon believed that testing for causality was almost impossible and could only be carried out in very few cases. MacMahon may have been dismissive about the idea of testing for causality but one of his contemporaries Jay W. Forrester was investigating the use of computers to do just that.

Forrester – Systems dynamic modelling

In the late 1950s, Forrester began experimenting with "systems dynamics modelling" in an industrial setting. Systems dynamic modelling is the use of computer simulations to estimate the consequences of complex causal assumptions. The steps involved in this process are shown in Figure 3.3.

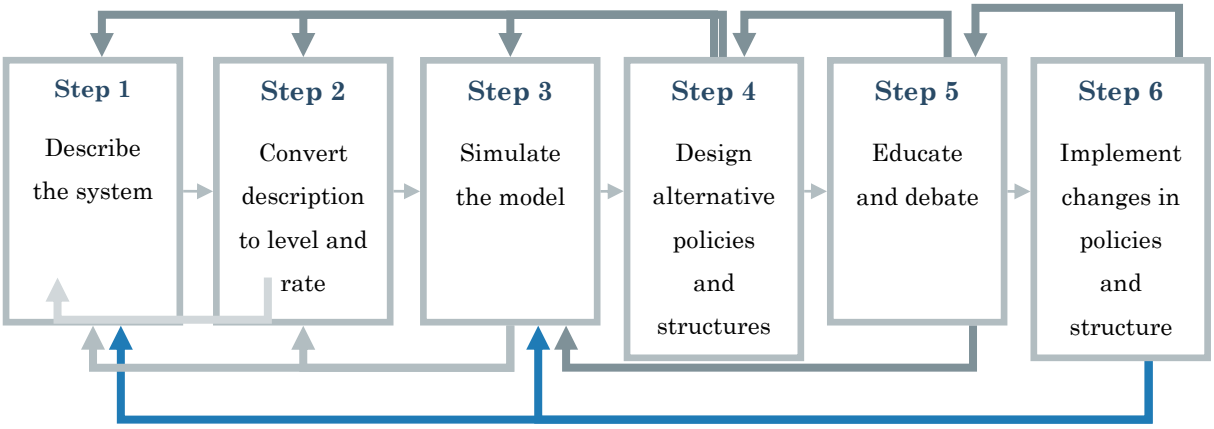

Figure 3.3: Steps in Systems Dynamic Modelling (Forrester, 1994)

Forrester used his background in science and engineering to deal with issues that determine the success or failure of corporations. He believed that senior managers should build models to understand their organisations, and that a manager's role was not merely as "captain of the ship" but as "designer of the ship" (Lane, 2007:105). This "corporate designer role" was an innovative approach to both modelling and management which he promoted throughout his career (Keough & Doman, 1992). Through the 1960s Forrester and his collaborators applied the system dynamics approach to a wide range of problems using research projects, courses and software. They utilised a combination of both qualitative and quantitative methods in order to understand complex systems. The qualitative aspect of systems modelling entails the

construction of "causal maps" or "influence diagrams" (Lattimer, Brailsford, Turnbull, Tarnaras, Smith, George, Gerard, & Maslin-Prothero, 2004:685) in which the system structure and the interrelations between the components of a system are explored. The quantitative aspect entails the development of a computer model in which flows of material or information around the system are modelled and bottlenecks are identified. Forrester experimented with graphics to represent the interrelations of a system. Over time he developed two main types of graphics, namely stock-flow diagrams and causal loop diagrams.

Figure 3.4 shows one of Forrester's stock-flow diagrams.

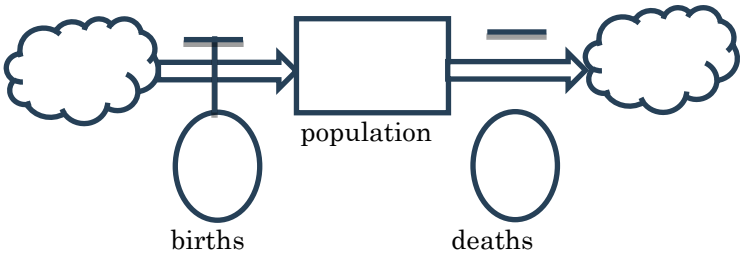

Figure 3.4: Flow diagram by Forrester (cited in Ossimitz, 2000:2)

The stock-flow diagram above depicts "stock "(the term for any entity that accumulates or depletes over time e.g. savings in a bank) and flow (the rate of change in a stock e.g. interest levels in a year). Stock is always depicted in rectangular boxes and flows by a double-lined direction arrow. The stock-flow diagram above indicates that both births and deaths impact on population (one, an in-flow and the other, an out-flow). If the in-flow and out-flow are balanced then the stock will remain stable. Such models can then be used in a "what if" mode to experiment with alternative configurations, flows, and resources. In the health care context, this entails modelling patient pathways, information flow, and resource use (Lattimer, *et al.,* 2004:685).

A causal loop diagram is a visual representation of the feedback loops in a system. Forrester's stock-flow diagram is shown in a causal loop diagram in Figure 3.5.

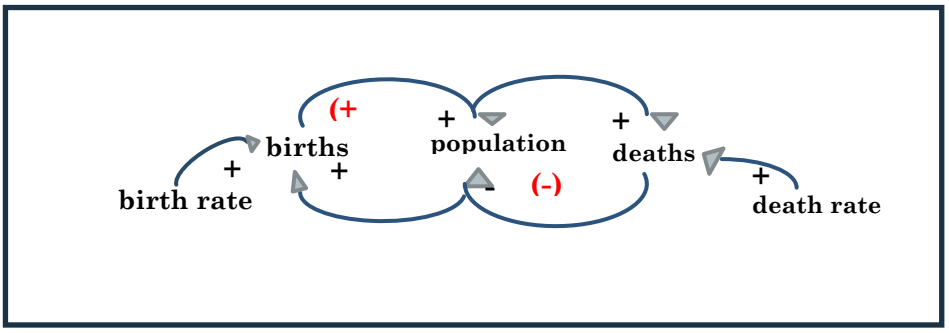

Figure 3.5: Forrester's Causal loop diagram[19]

This causal loop diagram shows a population that is increased by the flow of births and reduced by the flow of deaths, and has two feedback loops. The loop on the left is a positive feedback loop (depicted by the +). It shows a closed chain of cause-and-effect in which a larger population leads to more births, and more births leads to a still larger population. The loop on the right side is a negative feedback loop (depicted by the -).[20]

Ossimitz (2000) claims that Forrester's causal diagrams and other descriptive tools were his key achievements:

> Systems thinking requires the consciousness of the fact that we deal with models of our reality and not with the reality itself. Thinking in models also comprises the ability of model-building. Models have to be constructed, validated and developed further. The possibilities of model-building and model analysis depend to a large degree on the tools available for describing the models. Choosing an appropriate form of representation (e.g. causal loop diagram, stock-flow diagram, equations) is a crucial point of systems thinking. The invention of powerful, flexible and yet standardized descriptive tools was one of the main achievements of Jay Forrester. For school purposes the representation forms of the System Dynamics approach have proven to be successful. The causal loop diagram allows qualitative modeling, the stock-and-flow diagram already gives key hints about the structure of the quantitative simulation model (Ossimitz, 2000:6).

[19] (Source: http://www.iiasa.ac.at/Research/POP/pde/htmldocs/system.html).
[20] Based on description of diagram http://www.iiasa.ac.at/Research/POP/pde/htmldocs/system.html)

Forrester's causal loop diagrams became more and more complex over time and by 1970 he had developed a model of global development which showed the links between population, natural resources, pollution, agricultural and industrial production, capital investment and quality of life (Lane, 2007).

Systems modelling remained a highly specialized area of research until the advent of inexpensive, powerful computers in the 1990s. Currently, systems dynamics modelling is used outside the industrial setting and has been applied in many different fields of study including health care (Lattimer *et al.* 2004).

While there has been a great deal of discussion about how evaluation could import systems dynamics modelling - or more generally systems thinking - from management, this has not materialised due to the general complexity of this field. However, the causal maps and influence that diagrams Forrester experimented with (both the causal loops and flow diagrams) have become an integral part of TBE in the form of theory-of-change graphics and logic models.

Kirkpatrick – Four level model

Funnell and Rogers (2011:16) claim that Don Kirkpatrick's work on evaluating training was the first published use of programme theory. Kirkpatrick's Four-Level Model for evaluation of training was first introduced in 1959 when the Journal for the American Society of Training Directors published four articles (one for each level), introducing Kirkpatrick's model (Kirkpatrick, 1996:54). His four levels for training were Reaction[21], Learning[22], Behaviour[23], Results[24]. Kirkpatrick argued that these four levels should be used for planning purposes and that "results" should be used as the starting point for backward mapping in order to understand what training experiences are necessary to achieve the desired results. He also argued that this sequence of results could be used for planning an evaluation, as evidence from each level could be used to understand the

[21] "Reaction may be defined as how well trainees like a particular training programme" (Kirkpatrick, 1959).
[22] "What principles, facts and techniques were understood and absorbed by trainees?" (Kirkpatrick, 1959).
[23] This is a measure of the extent to which the participants change their on-the-job behaviour because of the training. It is commonly referred to as transfer of training" (Kirkpatrick, 1959).
[24] "The objectives of most training programmes can be stated in terms of the desired results, such as reduced costs, higher quality, increased production, and lower rates of employee turnover and absenteeism" (Kirkpatrick, 1959).

contribution of the training (Funnell & Rogers, 2011:16). Backward mapping is a technique often utilised in TBE, particularly in the development of logic models. In addition, Kirkpatrick's four levels were developed further by Claude Bennett (1975) into outcome hierarchies (Funnel &Rogers (2011:19) which are discussed in Phase 2.

Phase 1 – Summary

Although TBE was not yet in a format that allowed for easy uptake in to the field of evaluation, some of the key elements had been established:

- Taylor had moved the focus in business and management to understanding processes, not simply the end result (the output) and had recognised that particular sequences of activity would produce different results. Bloom and Kirkpatrick focused on articulating processes. These are elements that we now recognise in TBE.
- Bobbitt had taken Taylor's analytic process and utilised this in a completely different field – education – and Charters had utilised backward mapping from outcomes to activities. Backward mapping is now a key activity of TBE.
- Tyler had begun testing hypotheses and involving stakeholders in this process. This is now the central activity of TBE and stakeholders are key contributors to the process.
- Forrester had begun to experiment with causal maps to represent processes both simple and complex processes. Evaluators using a TBE approach continue to use causal maps in an attempt to articulate the hypotheses in programmes.

Table 3.3 summarises the contributions to Phase 1 of the development of TBE:

Table 3.3: Phase 1: The seeds of TBE (1909 – 1959)

Date[25]	Concept	Focus	Contributor	Link to TBE
1911	Scientific Management and job analysis	Business and management	Taylor	Focus on key components of a process (not only outputs) and their relationships for maximum efficiency
1913	Activity Analysis	Education - curriculum development	Bobbitt	Focus on key components and sequencing of processes
1909	Scientific curriculum – modified Activity Analysis	Education - curriculum development	Charters	Backward mapping of causal paths from outcomes to activities
1930	Performance-objectives congruence	Education-curriculum development	Tyler	Focused on hypotheses behind curriculum. Participation of stakeholders.
1942	Seven-Step Procedure to Evaluation	Education – curriculum construction	Tyler	Testing theory
1956	Objectives Hierarchies	Education – curriculum development	Bloom	Unpacking the black-box of student thinking
1956	Evaluation of technic and accomplishment	Health	MacMahon	Testing of a hypothesis of the programme
1956	Systems Dynamics Modelling	Management	Forrester	Development of causal maps to depict causal assumptions and graphics to represent cause and effect
1959	Four Levels of Learning	Evaluation	Kirkpatrick	Articulation of process and the use of a framework to both implement and evaluate the process

[25] The date column in the table refers to the first published work of the contributor relevant to the link of TBE. The dates are not in absolute chronological order; rather they follow a content chronology, i.e. how one author built on the ideas of his/her predecessor.

What all the contributions in this phase have in common is that researchers were focussed on three key problems which would influence the development of TBE. They were trying to understand:

1. The core elements of a process – which elements were critical to the process (particularly Taylor and Bobbitt)
2. The sequence these elements should be in order to be most effective (particularly Bobbitt, Charters, Tyler, Bloom and MacMahon)
3. How best to represent processes in their field (particularly Forrester and Kirkpatrick)

Researchers addressing issues 1 and 2 can be seen as contributors particularly to the theoretical elements of TBE, while those addressing issue 3 can be seen as contributors to the representations of TBE, such as logic models and logframes. In reality though, these problems are all intertwined.

What is interesting about these contributions to the concepts of TBE is the extent to which they are interdisciplinary in origin. The disciplines in the case of TBE are as diverse as curriculum design, management and health. This is a typical feature of emerging fields, as researchers have no alternative but to borrow concepts, models, classification and ideas from more established disciplines.

3.4.2 Phase 2: The roots of TBE (1960 -1979)

Gagne – flowcharts

The construction of hierarchies of outcomes which had gained impetus with Bloom continued into the 1960s, most notably in the work of Gagne (1962, 1967). In addition, Gagne used flowcharts as graphical representations of hierarchies. These box and arrow representations of a programme's theory first appeared in the 1960s. They were a simplified graphical representation of complex causality. The two figures (Figure 3.6 and 3.7) which follow are an example of the type of flowcharts Gagne developed.

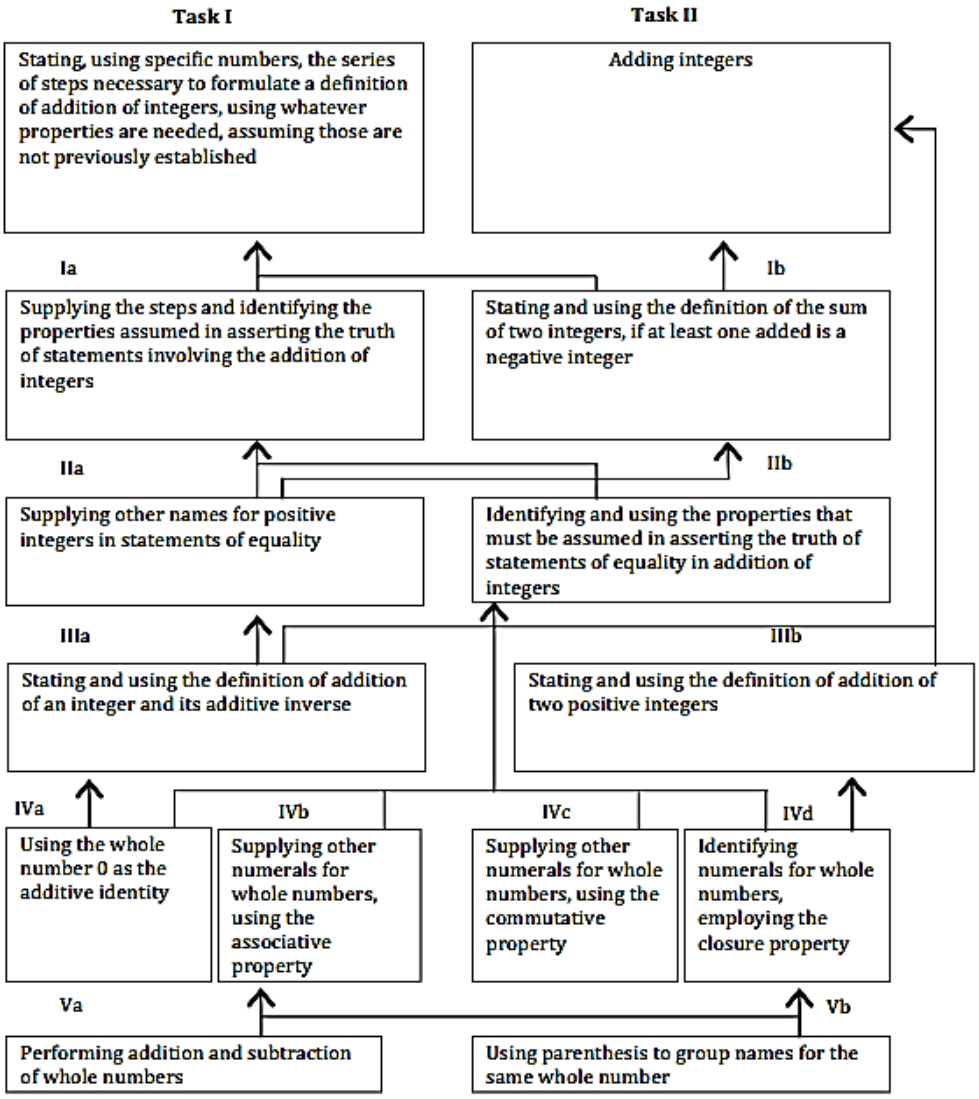

Figure 3.6: A Learning Hierarchy on the Addition of Integers (From Gagne, Mayor, Garstens & Paradise 1962:526)

Figure 3.6 presents what Gagne called a "learning hierarchy" (Gagne 1968:65). He developed this hierarchy as part of a study into learner performance. He found that certain learners performed differently after a mathematical intervention and instead of attributing this to differences in intelligence of the learners, he decided to try and unpack what outcomes would have had to be achieved by participants in order to succeed:

> Beginning with the final task, I found it was possible to identify nine subordinate capabilities, related to each other in an ordered way, by successively asking the question concerning each task, "What would the individual already have to know how to do in order to learn this new capability simply by being given verbal instructions?" (Gagne, 1968:66).

Once Gagne had identified a hierarchy of capabilities in this way, the next step was to test its validity – in other words he tested his theory about what was needed in order to achieve a particular outcome. Gagne indicated that not all his thinking could be adequately represented in his learning hierarchy flow diagram and further developed this into a diagram which indicated lines of transfer (Figure 3.7).

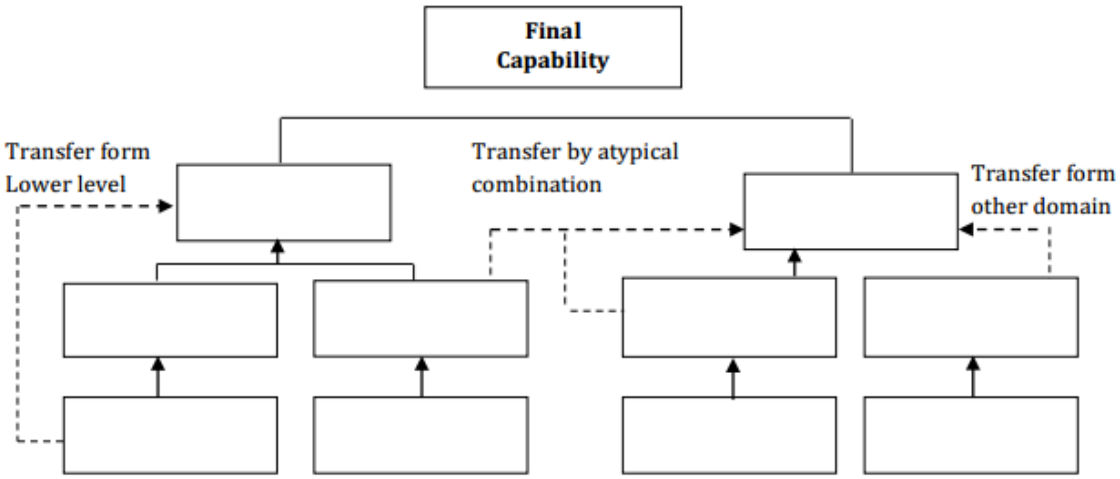

Figure 3.7: The Latent Consequences of Cumulative Learning, Indicated by Sources of Positive Transfer to the Learning of Advanced Capabilities (Gagne 1968, pp. 1-9).

Figure 3.7 shows a break from the strictly hierarchical flow of learning i.e. it indicates that outcomes can be achieved not necessarily in a strictly hierarchical flow (dotted lines on extreme left of diagram), in different combinations by different learners (dotted lines in middle of diagram) and outside the direct line of an intervention, from a different domain (dotted lines on extreme right of diagram). He showed in this diagram that there could be various pathways for achieving outcomes, which was different to the mechanistic or very linear presentation of programme theory espoused by his predecessors.

> …[D]epending on particular circumstances in the individual learner, there may be transfer from a lower level, in other words, "skipping." As another possibility, transfer may occur from quite a different domain of knowledge, as when one uses a skill at identifying number series patterns to solve a problem in classifying patterns of letters. Still a third possibility, which should not be overlooked, is the atypical combination of subordinate skills which, while they may seem conceptually very different, may in the case of an individual learner be able to combine to yield a rather

> unexpected source of learning transfer. A learning hierarchy cannot, in any practical sense, represent all of these possibilities. Yet to deny their existence would be wrong, and in fact quite contrary to the basic conception of what cumulative learning is supposed to accomplish (Gagne, 1968:69).

Gagne's flowcharts and unpacking of tasks to understand a process can be seen as significant contributions to the development of ideas behind TBE. His work shows the influence of his predecessors – his unpacking of learning theory was similar to the attempts by Bobbitt and Bloom to unpack the curriculum; his testing of his theory was similar to the work of MacMahon and Tyler who were involved in very early evaluation efforts in Health and Education. His articulation of his learning hierarchy is indebted to Bloom's taxonomy as it can be seen as a subset of the taxonomy.

The researchers in this phase built on each other's thinking and used the ideas that came before them to further ideas about cause and effect - how to unpack activities, to understand the relationship between activities and outcomes and how to depict relationships.

Suchman – Contributions in evaluation literature

Despite the significant contributions made by researchers from predominantly fields other than evaluation (mainly business, management, education and health) to some of the key components of TBE, Edward Suchman is generally regarded as the initiator of TBE in evaluation literature (Astbury & Leeuw, 2010:3; Bickman, 2000, Brouselle & Lamothe, 2007:96; Provus, 1971). Suchman (1967) argued that an intervention is usually based on a social theory or that there is some logical reason that the intervention will result in a particular outcome. Suchman felt that programme evaluation should focus on examining the "chain of objectives" in a programme (1967:55). He drew attention to the importance of examining the process between activities and achieving an objective.

> The evaluation study tests some hypothesis that Activity A will attain Objective B because it is able to influence process which affects the occurrence of this objective. An understanding of all three factors – program, objective and intervening process – is essential to the conduct of evaluative research (Suchman, 1967:177).

In addition, he added a new dimension to the notion of programme theory with the introduction of the open system which was prominent at the time:

> No event has a single cause and each event has multiple effects. All events are interrelated in a complex causal nexus open by nature and subject to rational intervention. No single factor is a necessary and sufficient cause of any other factor, and change in one part of the system may occur without necessitating a completely new equilibrium (Suchman, 1967: 84).

The notion of an open system had consequences for the development of programme theory as open systems meant that causal chains should take a range of factors outside of the intervention into account. This ide was taken in the models of TBE through the inclusion of components that referred to "assumptions", "external factors", "pre-conditions" or "conditions".

Despite the challenges of developing programme theory that had to consider all these factors outside of the intervention, Suchman indicated that this did not negate the "primacy of causes" (Gargani, 2003:30) and emphasised that it was important to use statistical methods for prediction:

> It should be recognized that acceptance of this open-system, naturalistic, multi-causal model as opposed to the closed-system, mechanistic, single-cause model has tremendous implication for the formulation of evaluative research projects. Evaluations of success must be made in terms of conditional probabilities involving attacks upon causal factors which are only disposing, contributory, or precipitating rather than determining.... Predictions of success or program objectives to be evaluated and need to be stated in terms of conditions and probabilities; for example, "Given conditions A, B, and C, the proposal program has a.6 probability of attaining the desired goal (also stated in terms of some level of achievement and total success)" (Suchman, 1967:84–85).

It is interesting to note that Suchman believed that Donald Campbell's work represented the key method for evaluation because it detailed the most scientific option available for causal research. It was in fact, Suchman's advocacy of Campbell's methods that resulted in Campbell being regarded as an evaluation scholar rather than only a researcher (Shadish, Cook & Leviton, 1991:123).

Stake - Description Data Matrix

Suchman's focus on formal, traditional scientific methods of evaluation was disputed by Robert Stake, who published a paper entitled, "The Countenance of Educational Evaluation", (1967) in which he proposed a type of evaluation design that was focused on more than simply an outline about "what should be measured or how to measure" (Stake, 1967:1). This was a departure from formal approaches to evaluation, which hitherto had focused only on measuring outcomes. In order to provide a broader and more holistic evaluation of educational programmes, he proposed an evaluation matrix consisting of 13 cells. He labelled this model a "description data matrix" (Stake, 1967:6).

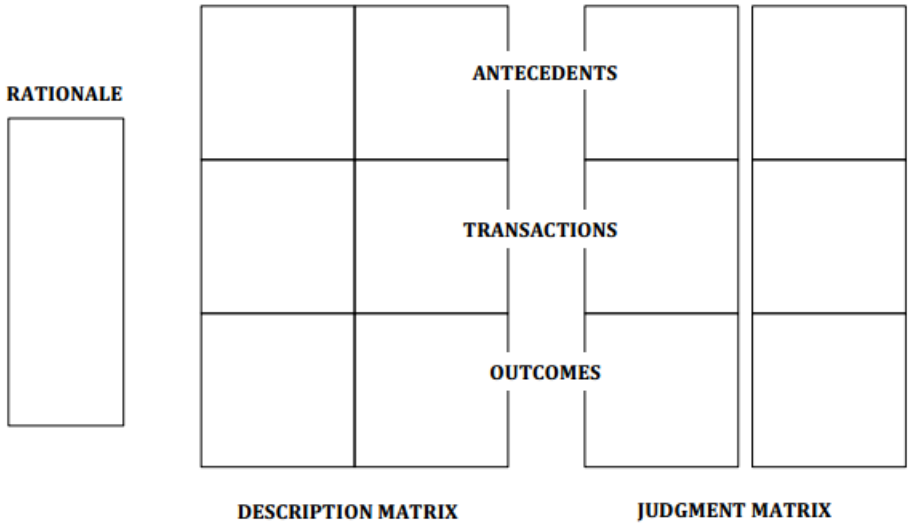

Figure 3.8: Stake's Description Data Matrix (Stake, 1967:6)

The model included intended antecedents (whatever needs to be in place before a programme is operational), transactions (activities and outputs), and outcomes of a programme. His model consisted of five key components in a tabular format (rationale[26], intents[27], observations[28], standards and judgements[29]). In addition there were three

[26] The rationale indicates the philosophic background and basic purposes of the program (Stake, 1967:9).
[27] Intents includes the planned-for environmental conditions, the planned-for demonstrations, the planned-for coverage of certain subject matter (Stake, 1967:6).
[28] Most of the descriptive data cited early in the previous section are classified as Observations. In Figure I when he described surroundings and events and the subsequent consequences, the evaluator is telling of his observations. Sometimes the evaluator observes these characteristics in a direct and personal way. Sometimes he uses instruments (Stake, 1967:8).
[29] There are two bases of judging the characteristics of a program, (1) with respect to absolute standards as reflected by personal judgments and (2) with respect to relative standards as reflected by characteristics of alternate programs (Stake, 1967:16).

organising components - antecedents[30], transactions[31] and outcomes[32]. Data on the intervention is compared to what was intended and to what the standards are for that kind of programme – it allows for judgements by evaluators against evaluative criteria (Cooksy *et al.,* 2001:119). Stake's diagram include some of the components we see in LMs and LFs currently

- problem/ situation/purpose ("rationale")
- pre-conditions ("antecedents")
- activities and outputs ("transactions")
- assumptions ("intents")
- means of verification ("observations") and
- outcomes

Although Gagne and Stake had contributed to the notion of the graphics associated with TBE, their representations were not yet clearly representing programme theory in the formats which are currently used.

Provus – Discrepancy Model

Wholey, Hatry and Newcomer (2004) state that Malcolm Provus, a student of Ralph Tyler, developed the first logic models in 1971 as part of his work on discrepancy evaluation. The discrepancy evaluation model focuses on the gaps between stated objectives and the results from the data measuring those objectives. Provus (1971:10-14) conceptualized a five phase process: (a) design; (b) operation; (c) interim products; (d) terminal products; and (e) cost. Provus (1971:12-13) noted that "at each of these stages a comparison is made between reality and some standard or standards". The first four stages are developmental in nature and designed to evaluate a single programme. The fifth stage, which Provus designated as optional, provides information for making comparisons with alternative programs. These phases were not to be seen as a linear process but rather than an integrated one. The model is shown in Figure 3.9.

[30] An antecedent is any condition existing prior to teaching and learning which may relate to outcomes (Stake, 1967:5).
[31] Transactions are the countless encounters of students with teacher, student with student, author with reader, parent with counsellor - the succession of engagements which comprise the process of education. (Stake, 1967:5).
[32]Outcomes such as the abilities, achievements, attitudes, and aspirations of students resulting from an educational experience (Stake, 1967:5).

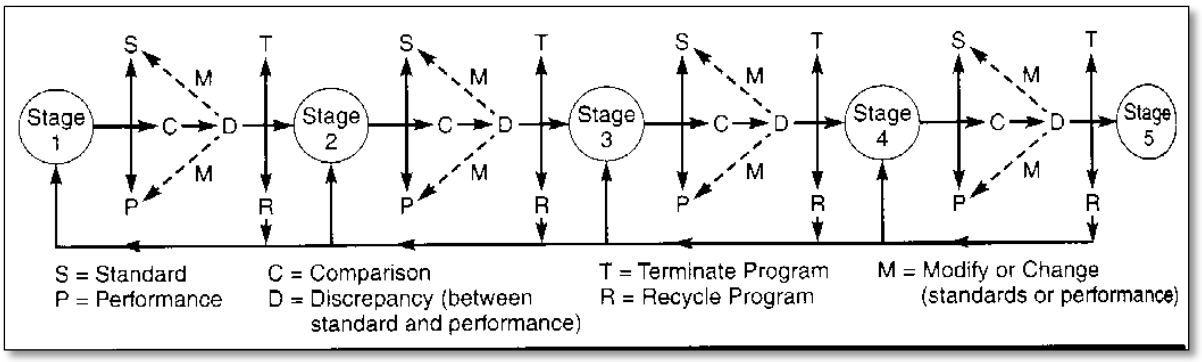

Figure 3.9: Provus's Discrepancy Model (Taylor & Cowley, 1972:118)

> The model provided a tool for the evaluator to work collaboratively with the project staff to identify program inputs, processes, and outcomes. The emerging model served as the standard by which the program was evaluated. The purpose of the evaluation was to identify the degree to which program performance matched the standard. If there was a discrepancy, staff could revise the standard or put more pressure on implementation fidelity (Wholey et al., 2004:13).

Although Provus' approach was a useful development in evaluation generally, critics such as Guba and Lincoln (1981) have noted that it lacks

- a real evaluative component (facilitating measurement and assessment of objectives rather than resulting in explicit judgements of worth)
- standards to judge the importance of observed discrepancies between objectives and performance levels

and depends on a highly utilitarian philosophy, promoting a linear, inflexible approach to evaluation. This lack of measurement criteria is obvious when examining an excerpt from a case history in the compiled by Provus (1969:72) shown in Figure 3.10.

Project: Pattern Drills

REPORT OF PANEL PROCEEDINGS

Section of Taxonomy Outcomes

Specific Dimensions	Program Definition	Judgements
1. Major Objectives – the changes that are expected to take place in program participants as a result of their experience in the program A. Terminal Objectives	As a direct result of the Pattern Drills Program, it is expected that students will have the following skills: 1. Be able to communicate clearly with all speakers in English 2. Be able to shift automatically from non-standard to standard speech and vice versa if the situation requires	Because of the many varieties of standard English, the objective as it is worded may not be realistic. The consultant suggests restatement as "Be able to communicate clearly with people with whom they come into contact in Western Pennsylvania". There are two objectives here: 1. "Be able to speak standard speech when appropriate" 2. "Be able to shift from non-statndard to standard speech when the situation requires"

Figure 3.10: Extract from case study, Provus, 1969 p.72

By the late 1960s and early 1970s, Michael Scriven (1967, 1972b), Robert Stake (1967) and Daniel Stufflebeam (1967, 1971) had introduced new models for evaluation that focused not only on outcomes but programme implementation and judgements about a programme's worth (Stufflebeam & Shinkfield, 2007:40).

Stufflebeam – CIPP

Stufflebeam incorporated a systems approach into evaluation, which had been introduced by Suchman. He also built on Stake's model and developed the well-known CIPP (Context-Inputs-Processes-Products) model. His work on this model had begun in the late 1960s and was primarily aimed at improving accountability for school projects, especially those focused on improving teaching and learning in inner-city school districts in America (Stufflebeam, 2007:326). Work on this model began because public schools were finding they could not evaluate their federally supported projects using the (then) "gold standard for programme evaluations: controlled, variable-

manipulated, comparative experiments"– in the fashion of Campbell and Suchman (Stufflebeam, 2004:251 cited in Alkin, 2004). Through the CIPP model, Stufflebeam tried to align evaluation procedures, data, and feedback with project timetables and local, state, and national information requirements. The model therefore was developed to serve both decision-making and accountability needs. Stufflebeam's CIPP model is shown in Figure 3.11.

Context	Input	Processes	Products
Assess needs, problems, assets, and opportunities to help decision makers define goals and priorities and help relevant users judge goals, priorities and outcomes.	Assess alternative approaches, competing action plans, staffing plans, and budgets for the feasibility and potential cost-effectiveness to meet targeted needs and achieve goals. Used in planning programmes, writing funding proposals and in choosing among competing plans.	Assess the implementation of plans to help staff carry out activities and, later, to help the broad group of users judge programme implementation and interpret outcomes.	Identify and assess outcomes – intended, unintended, short term and long term – to help staff keep a project focused on achieving important outcomes and ultimately to help the broader group of users gauge the project's success in meeting targeted needs.

Figure 3.11: CIPP Categories for Evaluation (Source: Adapted from Stufflebeam, 2007:326)

The model's core features are denoted by the acronym CIPP, which stands for evaluations of an organisation's context, inputs, processes and products. These four parts of an evaluation respectively ask: What needs to be done? How should it be done? Is it being done? Did it succeed? (Stufflebeam, 2002:1). It is interesting to note CIPP's model contains three of the four core components that would be found in the logic model developed by United Way (1996:vii) which has become one of the most well recognised LMs.

The CIPP model went through various iterations as Stufflebeam used it in the field and modified it accordingly. The model's first version was published 47 years ago (Stufflebeam, 1966) and the need for process as well as product (outcome) evaluations (only two of the four CIPP parts) was emphasised. The second version was published a year later (Stufflebeam, 1967) and included all four parts. Stufflebeam stressed that the development of programme goals should be guided by context evaluation and that

programme planning should be guided by input evaluation. The third version (Stufflebeam *et al.,* 1971) included the four types of evaluation within an improvement-oriented framework. The model's fourth version (Stufflebeam, 1972) showed how the model could be used for summative as well as formative evaluation. The model's fifth version included a comprehensive checklist which unpacked product evaluation in greater detail – impact, effectiveness, sustainability and transportability (Stufflebeam, 2002:1). In this fifth version of the CIPP model, Stufflebeam developed a checklist of ten components:

1. Contractual agreements[33]
2. **Context**
3. **Input**
4. **Process**
5. Impact[34]
6. Effectiveness[35]
7. Sustainability[36]
8. Transportability[37]
9. Meta-evaluation[38]
10. Synthesis report[39]

Three of the initial CIPP components are present in this checklist, while the fourth, "Product" has been broken up into more detail, and the additional components of contractual agreements, meta-evaluation and synthesis report (which are all practical components) have been added.

[33] CIPP evaluations should be grounded in explicit advance agreements with the client, and these should be updated as needed throughout the evaluation (Stufflebeam, 2002:1).
[34] Impact evaluation assesses a program's reach to the target audience (Stufflebeam, 2002:7).
[35] Effectiveness evaluation assesses the quality and significance of outcomes (Stufflebeam, 2002:8).
[36] Sustainability evaluation assesses the extent to which a program's contributions are successfully institutionalized and continued over time (Stufflebeam, 2002:9).
[37] Transportability evaluation assesses the extent to which a program has (or could be) successfully adapted and applied elsewhere (Stufflebeam, 2002:10).
[38] Meta-evaluation is an assessment of an evaluation's adherence to pertinent standards of sound evaluation.
[39] Synthesis reports pull together evaluation findings to inform the full range of audiences about what was attempted, done, and accomplished; what lessons were learned; and the bottom-line assessment of the program (Stufflebeam, 2002:11).

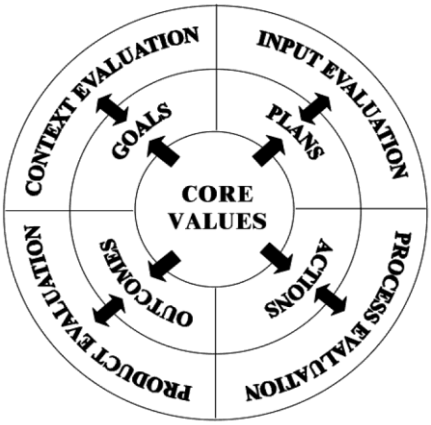

Figure 3.12: Key Components of the CIPP Evaluation Model and Associated Relationships with Programmes (Stufflebeam, 2004:249 cited in Alkin, 2004)

In his sixth version in 2004 (shown in Figure 3.12) Stufflebeam depicted the basic elements of the CIPP model in three concentric circles and placed core values (which he indicated should be defined prior to an evaluation) in the centre of the circles. The wheel surrounding the values is divided into four parts - goals, plans, actions and outcomes. These can be viewed as evaluation foci. The outer wheel indicates the type of evaluation that serves each of the foci (i.e. context, input, process, and product evaluation). "The two-directional arrows represent a reciprocal relationship between a particular evaluative focus and a type of evaluation" (Stufflebeam, 2004:249 cited in Alkin, 2004).

The various modifications and elaborations of the CIPP model are summarised in Figure 3.13:

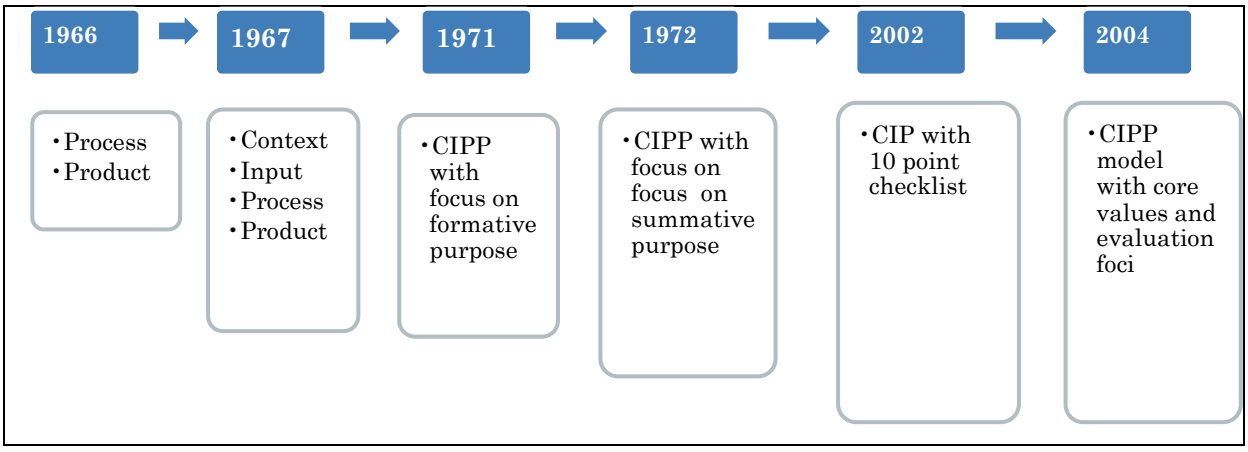

Figure 3.13: Development of CIPP model (1196 – 2004)

Stufflebeam's model and approach to evaluation contain some of the elements that TBE would later incorporate, such as the importance of articulating the thinking that lies behind the programme design (Birckmayer & Weiss, 2000). Stufflebeam, although utilising different terminology, emphasises the importance of the second component[40] - "delineating" which he defines as "focusing information requirements to be served by evaluation through such steps as specifying, defining and explicating" (Stufflebeam, 1971:25). Figure 3.14 shows that there should be records of programme objectives, chosen strategy, design and reasons for their choice – an articulation of the assumptions behind the programme.

		CONTEXT	INPUT	PROCESS	PRODUCT
USES	**DECISION MAKING**	Objective	Solution strategy Procedural design	Implementation	Termination, continuation, modification, or installation
	ACCOUNTABILITY	Record of objectives and bases for their choice	Record of chosen strategy and design and reasons for their choice	Record of the actual process	Record of attainments and recycling decisions

Figure 3.14: Operational definitions for the four types of evaluation (Stufflebeam, 1971:30)

This focus on the articulation of the reasons for the programme staff's choice of "chosen strategy" can be seen as a contribution to the development of the principles underpinning TBE. In addition, the tabular format of his "chart" (Stufflebeam, 1971) provides a taste of what is to come in the tabular format of logic models. Stufflebeam (1983) stated that the CIPP model would not necessarily lead to the formulation of a hypothesis, but it did "provide a rich array of background data against which to interpret and understand outcomes" (Cooksy *et al.,* 2001:128). Stufflebeam distanced himself from theory testing or proving of causality and stated that "the model's main theme is that evaluation's most important purpose is not to prove, but to improve" (Stufflebeam, 2002:2). Although Stufflebeam's model and approach contained some of the elements that TBE would later incorporate, he made it clear that his model was not

[40] There are 7 components to his definition of evaluation: Process, Delineating, Obtaining, Providing, Useful, Information, Decision alternatives (Stufflebeam, 1971:25).

primarily linked to programme theory, In fact, later on in his career, he was highly critical of this evaluation approach. In 2007 he stated that:

> [I]f a relevant, defensible theory of the program's logic does not exist, evaluators need not develop one…. Overall there is not much to recommend Theory-based program evaluation since doing it right is not feasible and failed and misrepresented attempts can be highly counterproductive (Stufflebeam, 2007:187).

However, I would argue that Stufflebeam's experimentation with his CIPP model certainly contributed (even unintentionally and perhaps unwillingly) to the thinking around development of programme theory and particularly the components and sequencing of components shown in the LMs and LFs that were developed only eight years later.

Weiss – Theory of Change

Carol Weiss, like Stufflebeam, began her evaluation career in the 1960s but whereas he focused on education, she initially explored the connection between evaluation and policy (Weiss, 1972:2). Weiss, like the other evaluators of her time, used objectives and measurement as her evaluation strategy but soon became disillusioned with this. She was one of the earliest advocates of using programme theory in evaluation and emphasised this in some detail in her 1972 publication, *Evaluation Research: Methods for Assessing Program Effectiveness*. Weiss claims (1997b:41) that this 1972 publication was the first time the idea of basing evaluation on a programme's theory was presented in evaluation literature – although she did not label this approach to evaluation in any particular way. Her 1972 publication received mixed reviews with some reviewers claiming "it is more seductive than fulfilling" (Vanecko, 1975:265) and others rejecting Weiss' suggestions for using theory rather than methods to focus evaluation:

> Weiss has chosen to make her statement in handbook form, but it is a handbook that offers a minimum amount of case material. Since methodology cannot be reduced down to a set of rules, Weiss' comments often turn out to be suggestions of a general procedural sort, devoid of clear content. Furthermore, the book is excessively optimistic, seeming to promise that most methodological difficulties have a solution (Rothbart, 1975:25).

It was not yet time for TBE to take hold in any substantial way and it would take stronger advocacy and a greater number of publications from other evaluation scholars for that to happen. By 1995 this scenario changed particularly for Weiss:

> I wrote a paper on theory-based evaluation in 1995, published in what I thought would be an obscure book, that has received considerable attention (Weiss, 1995). The idea of basing evaluation on programs' theories of change in community-based programs received a warm welcome among evaluators and sponsors of these kinds of programs. One reason seems to be that it promised (or at least hinted at a promise) that theory-based evaluation could strengthen the validity of evaluations when random assignment is impossible, as it is in place-based programming (Weiss, 1997b:43).

She believed that TBE could be used to "strengthen the validity of evaluation without random assignment" (Weiss, 1997b:43). Weiss (1998:55) notes that, "For evaluation purposes, it is useful to know not only what the program is expected to achieve but also how it expects to achieve it" and claimed that basing evaluations on theories of the programme serves four key purposes:

> 1. It concentrates evaluation attention and resources on key aspects of the program.
> 2. It facilitates aggregation of evaluation results into a broader base of theoretical and program knowledge.
> 3. It asks program practitioners to make their assumptions explicit and to reach consensus with their colleagues about what they are trying to do and why.
> 4. Evaluations that address the theoretical assumptions embedded in programs may have more influence on both policy and popular opinion (Weiss, 1995:69).

Weiss's contribution to the development of TBE is significant and her publications in the field spanned 35 years (1972 -2007). The following discussion of her work focuses on some of her key contributions to the development of TBE.

Making theory explicit

The concept of grounding evaluation in theories of change takes for granted that social programmes are based on explicit or implicit theories about how and why the programme will work (Weiss, 1972:50). Weiss (1996a) was concerned that assumptions underlying programmes are often never made explicit and so recommended that programme goals should be officially stated, which usually involves cutting through rhetoric as programme goals are often "hazy, ambiguous and hard to pin down"

(1972:25). This requires evaluators to develop precise and targeted statements of intent. Weiss (2000) encouraged evaluators to identify and articulate the different theories that may be shaping programmes and help participants reach consensus on these.

Theory in relation to TBE

Weiss made it clear that theory in relation to TBE was not something lofty but simply "a set of beliefs or assumptions that underlie action" (Weiss, 1997a:503).

> If theory is taken to mean a set of highly general, logically interrelated propositions that claim to explain the phenomena of interest, theory-based evaluation is presumptuous in its appropriation of the word. The theory involved is much less abstract and more specific, more selective, and directed at only that part of the causal chain of explanation that the program being evaluated is attempting to alter (Weiss, 1997a: 502).

These theories could emanate from a number of sources.

Theories emanate from various sources

Some evaluation theorists suggest that programme theories should be social science theories with a reasonable scientific pedigree (Chen & Rossi, 1992), but Weiss initially indicated that there were four other sources of information for programme theories "documents, people, prior research and logical reasoning" (Weiss, 1997a:508). By 2000 she expanded these to include social science theories, prior evaluations, practitioners' expectations, evaluators' knowledge, experience and logic (Birckmayer & Weiss, 2000:426–427). Weiss believed that all these sources could contribute to the development of a theory, but that staff affirmation of the theory is what is critical to utilisation of theory in both management and evaluation. Weiss indicates that the theory of change does not have to be "uniformly accepted" (i.e. by those outside a particular programme), generalizable to other contexts or "even have to be right" (Weiss 1998, p. 55), as they are simply hypotheses which are the basis for programme design, implementation and evaluation (Weiss, 1997b).

The distinction between implementation theory and programme theory

Weiss (1997b) in an article reflecting on TBE argues that it is very important for evaluators to distinguish between what she calls "implementation theory" (how the programme is carried out) and "programme theory" (the mechanisms that occur between

the delivery of programme and the occurrence of outcomes). In drawing this distinction, she built on the work of Suchman (1967) who had drawn the distinction between programme or implementation failure and theory failure. She indicated that implementation theory and programme theory together represent the full "theory of change" (1998:58). This differentiation between the two elements of the Theory of Change is clearly shown in the figure below taken from Weiss' 1972 work.

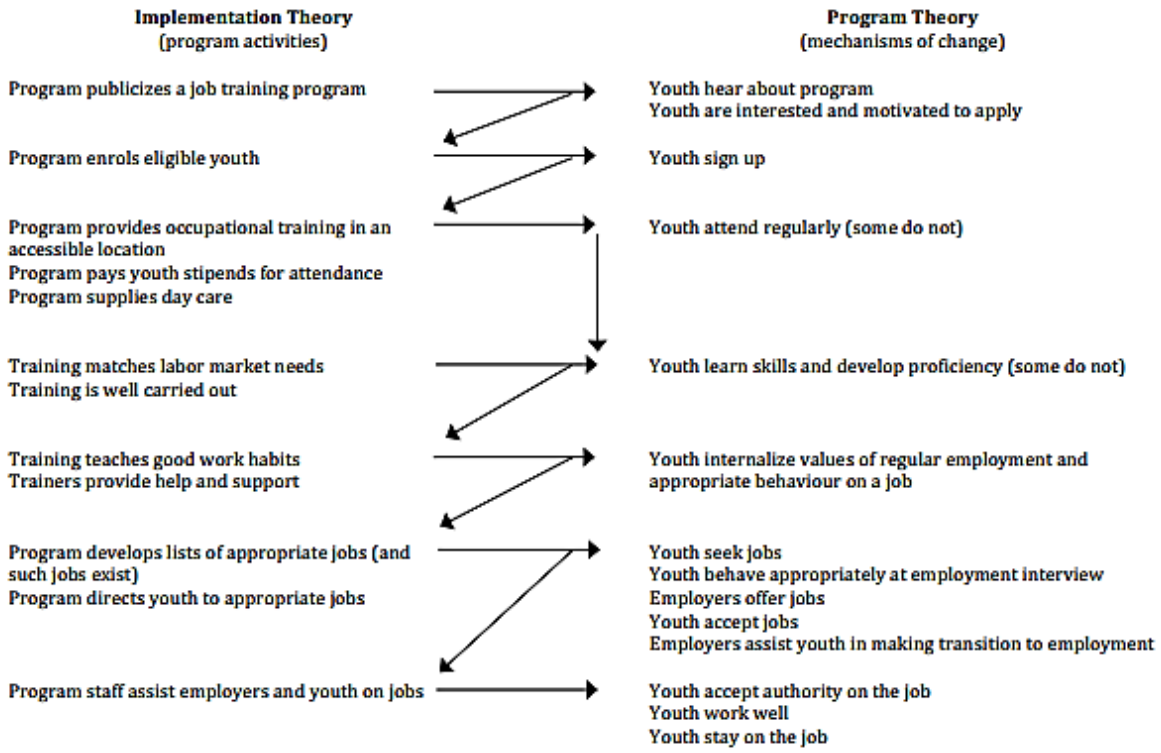

Figure 3.15: Theory of Change (Weiss, 1972:59)

On the left hand side of the figure a set of activities are outlined that indicate the necessary activities for the programme (implementation theory), and the right hand side indicates the changes in the beneficiaries – in this case unemployed youth – that culminate in the desired change, indicated at the bottom right-hand side of the figure (programme theory). The vertical arrows between the components of the programme theory show the accumulating change in the beneficiaries. The arrows between the programme components and the programme theory together indicate the programme's theory of change. Weiss pointed out that a number of evaluation scholars conflate or even confuse the two kinds of theory (1997a:505) and that is particularly true of practitioners today. Weiss indicated that both types of theory are useful, but that confusing the two types has led to "muddy thinking and confusion" (1997a:506).

The use of path diagrams

Weiss recommended using causal models (especially in graphic form) to represent the link between a programme's intervention and its desired outcomes. She promoted these models which could be used by evaluators to

identify the variables to include in an evaluation

follow the chain of activities and examine the sequence

notice changes in programme implementation (Weiss, 1972, 1997b)

She included a pathway diagram (which she called a "process model") of several alternative theories for teacher home visits in her 1972 publication.

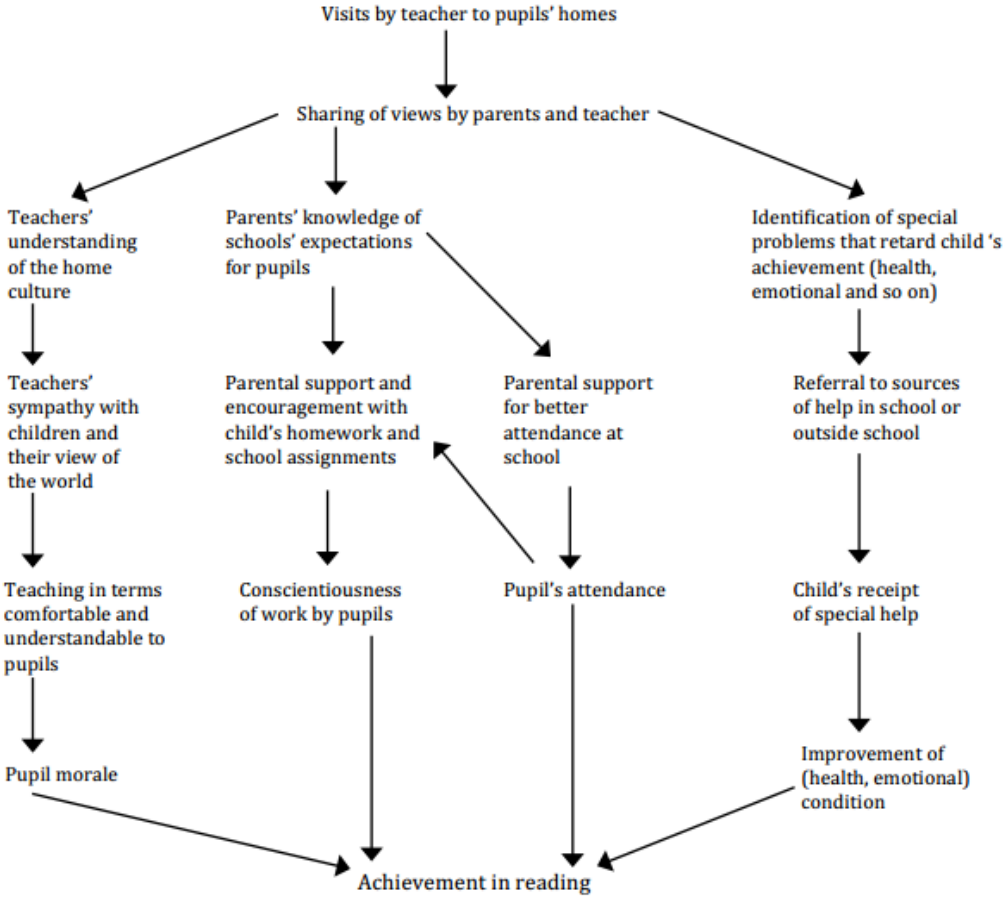

Figure 3.16 Theory of a programme of teacher visits (Weiss, 1972:50)

What is important about this representation of programme theory is that it would herald in an explosion of flow diagrams of programme theory that continues unabated today. Funnell and Rogers (2011:242 -243) have divided these representations into four key categories: outcome chains, pipelines, realist matrices and narratives. Weiss' pathway diagrams are the forerunners particularly of outcome chains, which allow for

multiple strands of outcomes to be easily shown at once, without focusing on programme components (as logic models do). Weiss used pathway diagrams to show the many small steps necessary in a programme for achieving a goal. The use of visual rather than narrative descriptions of theories allows chains of events to be shown simply and focuses an evaluator's attention on unpacking of the 'black-box'.

Challenges of TBE

Although Weiss was one of the strongest advocates of TBE she also provided the earliest warnings of the intrinsic dangers and difficulties of the approach. The first was "the inherent complexity of the effort" (1995:87) as TBE requires particular skills and attitudes which programme staff may not have and as a result they may resent the TBE process. Gaining consensus among programme staff regarding the theory could also prove difficult. Of course, evaluators also require critical skills for TBE which they too may not have. One of the greatest difficulties of TBE is developing robust theories:

> Probably the central need is for better program theories. Evaluators are currently making do with the assumptions that they are able to elicit from program planners and practitioners or with the logical reasoning that they bring to the table. Many of these theories are elementary, simplistic, partial, or even outright wrong. Evaluators need to look to the social sciences, including social psychology, economics, and organization studies, for clues to more valid formulations, and they have to become better versed in theory development themselves. Better theories are important to evaluators as the backbone for their studies. Better theories are even more essential for program designers, so that social interventions have a greater likelihood of achieving the kind of society we hope for in the twenty-first century (Weiss, 1997b:51).

Weiss warned that the measurement of mediating variables was a complex task and this would require evaluator competency in measurement as well. Although these were warnings made over 16 years ago, they still hold true today.

Weiss made a significant contribution to the development of the scholarship focusing on evaluation in general and TBE in particular with her books, numerous articles and contributions to roundtables. She was one of the first evaluation theorists to highlight the issue of the importance of utilising the theory behind a programme and her work on TBE ensured that it was an approach that evaluators would have to consider instead of simply carrying out method-driven evaluations as they had done previously.

Bennett – Hierarchy of outcomes

Claude Bennett was an evaluator from the United States Department of Agriculture who also moved away from a method-driven approach and in 1975 developed an early "generic program theory" (Funnell & Rogers, 2011:19). He developed a hierarchy of cause and effect in response to a need to justify spending on extension programmes. To be able to measure incremental change during a programme, Bennett came up with a hierarchy that showed the causal links between the steps from inputs to outcomes. He called this initially a "chain of events" (Bennett, 1975:7) and acknowledged that some of the links had been previously identified by Kirkpatrick and Suchman. His hierarchy of outcomes is shown in Figure 3.17.

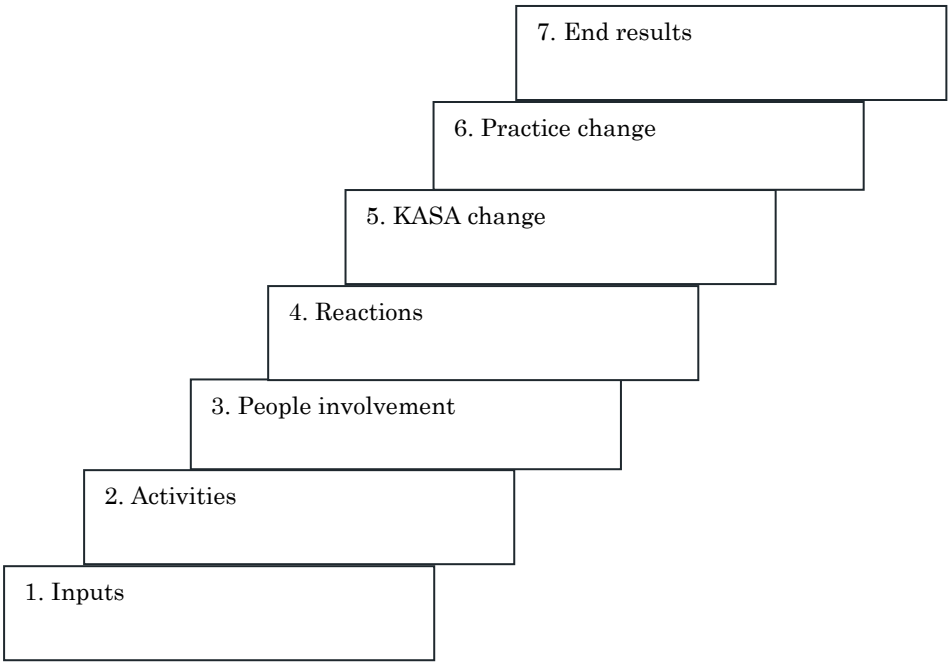

Figure 3.17: Hierarchy of outcomes (Bennett, 1975:9)

Bennett's hierarchy consisted of seven steps and became well-known when Michael Patton included it in his first edition of *Utilization-focused Evaluation (*1978). It is still used widely today (Funnell & Rogers, 2011). Although he labelled it a hierarchy of outcomes, it also included programme components (such as inputs and activities) which distinguished his hierarchy from Weiss' pathway diagrams. But like Weiss, issues of measurement were of a concern to Bennett and he elaborated on his model to include examples of the kinds of evidence needed in an evaluation utilising his hierarchy.

Levels	Examples	
	"Hard" evidence	"Soft" evidence
7. End results	Profit-loss statements; life expectancies and pollution indexes	Casual perceptions of quality of health, economy and environment
6. Practice change	Direct observation of use of recommended farm practices over a series of years	Retrospective reports by farmers of their use of recommended farm practices
5. KASA change	Changes in scores on validated measures of knowledge, attitudes, skills and aspirations	Opinions on extent of change in participants' knowledge, attitudes, skills and aspirations
4. Reactions	Extent to which random sample of viewers can be distracted from watching a demonstration	Recording the views of only those who volunteer to express feelings about demonstration
3. People involvement	Use of social participation scales based on recorded observations of attendance, holding of leadership positions etc.	Casual observation of attendance and leadership by participants
2. Activities	Pre-structured observation of activities and social processes through participant observation, use of video and audio tapes etc.	Staff recall of how activities were conducted and the extent to which they were completed
1. Input	Special observation of staff time expenditures, as in time-and-motion study	Staff's subjective reports about time allocation

Figure 3.18: Bennett's hard and soft evidence hierarchy (1975:10)

Figure 3.18 shows Bennett's distinction between "hard" and "soft evidence". The "soft" evidence is all qualitative in nature and the "hard" mainly quantitative. Like Weiss, Bennett was exploring the kinds of measurement that could answer questions regarding causal links:

> Whether exclusively quantitative measurement is desirable is also not clear. To the extent that theory-based evaluation represents a search "for precise and decomposable causal structures" (Rockman 1994:148) through quantitative measurement and statistical analysis, may be taking too positivistic a stance. The logic of qualitative analysis may be more compelling, since it allows not only for rich narrative but also for the modification of causal assumptions as things happen in the field. But since sponsors often find quantitative data more credible than narrative accounts, efforts should probably be made to construct measures of key items (Weiss, 1995:88-89).

Both Weiss and Bennett seemed to be moving away from quantitative measurement only, which was the de facto measurement type used in evaluations in the 1960 and 1970s. Bennett and Kay Rockwell (1996) went on to further develop his hierarchy of outcomes into a method called Targeting Outcomes of Programs (TOP) Model for use in programme development and evaluation.

Professionalisation of evaluation

By the mid-1970s, evaluation began building a stronger professional presence through the foundation of the academic-oriented Evaluation Research Society (1976) and the practice-oriented Evaluation Network (1975). From 1973 universities[41] began to recognise the importance of evaluation by offering courses in evaluation methods and the work of evaluation theorists was discussed and adopted by practitioners. But TBE had not yet been established as a primary evaluation approach.

The delayed and staggered uptake of TBE seems in part due to evaluation approaches being dominated by methodological choices rather than a focus on programme design for much of the 20th century (Chen & Rossi, 1980). In addition, at the time that Chen, Rossi, Weiss and others were promoting the notion of TBE, other evaluation scholars and practitioners were promoting a range of novel competing approaches for example Goal-Free Evaluation (Scriven, 1972b), Utilization-Focused Evaluation (Patton, 1978, 1997) and Fourth Generation Evaluation (Guba & Lincoln, 1989). These competing theoretical approaches meant that evaluators in the 1970s had a wide range of approaches to choose from. However, the 1980s would herald a growth in popularity of TBE and this growth is documented in the following section.

[41] University of Illinois, Stanford University, Boston College, UCLA, University of Minnesota, and Western Michigan University

Phase 2 - Summary

The key difference between Phase 1 and 2 in the development of TBE is that the development of ideas around programme theory had at last shifted from other domains squarely into that of evaluation. Suchman 's strong focus on the role of social theory and the implicit logic in interventions meant that he spurred the development of TBE forward.

In Phase 2 there was only one key contribution from outside the field of evaluation and that was from Gagne. His experimentation with representations of objective hierarchies influenced Bennett's development of early generic programme theory. In the first part of this phase much of the development of TBE was focussed on various ways to represent the logic of interventions. Stake's tabular format, Stufflebeam's CIPP model, Weiss's pathway diagrams and Bennett's hierarchy of outcomes cover almost all the formats used currently to represent programme theory (Wholey would soon add the narrative format). Weiss's theoretical input in this phase would also be key as it would lay a foundation for others who followed in Phase 3 to build on. The development of the professional associations for evaluators in 1975 and 1976 provided the perfect forum for evaluator to debate issues concerning the innovative ideas of this phase and flesh out the evaluation processes that would utilise the representations that had been developed.

Table 3.4: Phase 2: The roots of TBE (1960 - 1979)

Date[42]	Concept	Focus	Contributor	Link to TBE
1962	Representations of objective hierarchies as flow charts	Education – learner performance	Gagne	Testing theory Multiple pathways
1967	Chain of Objectives and the importance of testing "black box" of social programmes	Evaluation	Suchman	Open system in PT Emphasis on use of stats for PT
1967	Model of Antecedents, Transactions and Outcomes.	Education	Stake	Tabular format of model Comparison against criteria
1971	Program Theory becomes an essential pre-evaluation step in any discrepancy evaluation	Evaluation	Provus	Development of logic model Comparison against criteria and other programmes
1971	CIPP model	Evaluation	Stufflebeam	Focus on programme strategy Model components
1972	Theory-Based Evaluation first described	Evaluation	Weiss	Scholarship: Theoretical content Description of process Pathway diagrams
1973	Evaluation university programmes	Evaluation	University of Illinois, Stanford University, Boston College, UCLA, University of Minnesota, and Western Michigan University	
1975	Term "Theory based evaluation" labelled	Evaluation	Fitz-Gibbon and Morris	TBE labelled
1975	Hierarchy of outcomes	Evaluation	Bennett	Early generic Program Theory developed
1975	Professional association for evaluators	Evaluation	Evaluation Network	Forum to debate and advocate TBE
1976	Professional association for evaluators	Evaluation	Evaluation Research Society	Forum to debate and advocate TBE

[42] The date column in the table refers to the first published work of the contributor relevant to the link of TBE. The dates are not in absolute chronological order rather they follow a content chronology i.e. how one author built on the ideas of his/her predecessor.

3.4.3 Phase 3: The establishment of TBE (1980 – 1999)

Although the seeds of TBE had been planted almost seventy years before and slowly took root, it was during the 1980s, that interest in this evaluation approach really took off (e.g. Bennett, 1982; Bickman, 1987, 1990; Chen, 1980; Gargani, 2003; Patton, 1986). The development of professional evaluation associations, particularly the American Evaluation Association in 1986[43], meant that evaluators from very different disciplines could meet and exchange ideas through conferences and journals. The journals[44] that were being established as a result of the growing professionalization of evaluation as a discipline provided theorists with a platform to advocate their ideas. Chen and Rossi (1980, 1983) began promoting TBE[45] through their writings and supported Weiss's belief that Theory-based evaluation would be of great value to both programme staff and evaluators as this approach would be more likely than methods-based evaluations (which were more popular at the time) to discover disparate programme effects which were being overlooked.

One of the main reasons for the growing interest in TBE in the this period was "the usual inability of even the most sophisticated experimental evaluations to explain what factors were responsible for the program's success—or failure" (Weiss, 1997b: 502). This made evaluation less than useful. Weiss was not the only evaluator to note the lack of utility of evaluation at the time. Joseph Wholey identified four additional factors that contributed to the lack of uptake of evaluations at the time:

1. Lack of definition of the problem addressed, the program intervention, the expected outcomes of the program, or the expected impact on the problem addressed.
2. Logic of testable assumptions linking expenditure of program resources, the implementation of the program, the outcomes to be caused by that program, and the resulting impact.
3. Lack of agreement on evaluation priorities and intended uses of evaluation.
4. Inability or unwillingness to act on the basis of evaluation information

(Wholey, 1983:77)

[43] In 1986, the Evaluation Research Society and Evaluation Network merged to become the American Evaluation Association.
[44] 1973 , p. 83 Educational Evaluation and Policy Analysis, Studies in Educational Evaluation, CEDR Quarterly, Evaluation Review, New Directions for Program Evaluation, Evaluation and Program Planning, and Evaluation News.
[45] Their version of TBE was called Theory-driven evaluation.

Horst and the Urban Institute

In the 1974 *Public Administration Review (PAR)* symposium on programme evaluation, Pamela Horst and her colleagues from the Urban Institute[46] presented their findings of their research into programme evaluations at the time and concluded that evaluation is likely to lead to improve programme performance only if the programme design meets three key conditions:

> Condition 1: Program objectives are well defined, i.e., those in charge of the program have agreed on a set of realistic, measurable objectives and program performance indicators in terms which the program is to be held accountable and managed;
> Condition 2: Program objectives are plausible, i.e. there is evidence that program activities are likely to achieve measurable progress toward program objectives; and
> Condition 3: Intended use of information is well defined i.e., those in charge of the program have agreed on how program performance information will be used to achieve improved program performance (Strosberg & Wholey, 1983:66).

The quotation above highlights three essential elements of an evaluation process formulate a programme theory (Condition 1) which is realistic (Condition 2) and decide on use of evaluation (Condition 3). Wholey would take up this challenge in the development of evaluability assessment.

Wholey – evaluability assessment

Partly in response to Horst's three conditions, Wholey developed the notion of evaluability assessment (EA). He indicated that

> the purpose of EA is to identify those areas of program performance that already meet the three conditions and, therefore, are fruitful for evaluation ("evaluable"), describe changes that would be needed to make the program more effective and more evaluable, and provide managers with options for the purchase of evaluative information necessary to assess and improve program performance" (Strosberg & Wholey, 1983:66).

[46] In the mid-1960s, President Johnson saw the need for independent analysis of the problems facing America's cities and their residents. The President created a blue-ribbon commission of civic leaders who recommended chartering a centre to do that work. In 1968, the Urban Institute became that centre. The Urban Institute builds knowledge about the nation's social and fiscal challenges, practicing open-minded, evidence-based research to diagnose problems and figure out which policies and programs work best, for whom, and how. The recession of the early 1970s lends urgency to the Institute's research on poverty, employment, and social services. (Sourced from www.urban.org/about)

He used a checklist of eight questions to guide the EA process:

1. What resources, activities, objectives, and causal assumptions make up the program?
2. Do those above the program managers at the departmental level, and in the Office of Management and Budget, Congress, and the General Accounting Office agree with the program manager's description of the program?
3. To what extent does the program have agreed upon measures and data sources?
4. Does the description of the program correspond to what is actually found in the field?
5. Are program activities and resources likely to achieve objectives?
6. Does the program have well-defined uses for information on progress toward its measurable objectives?
7. What portion of the program is ready for evaluation of progress toward agreed-upon objectives?
8. What evaluation and management options should management consider?

Strosberg & Wholey (1983:67-68).

Wholey's checklist focused mainly on Weiss's notion of "Implementation Theory" with little focus on "Programme Theory" but his foregrounding of clear articulation of the programme components and the underlying "causal assumptions" (point 1) was a useful step forward towards putting TBE on the evaluation map. It was his programme theory diagrams and narrative which were in fact his main contributions to the development of TBE. Wholey's work on EA, including his checklist and models like the "Program Theory for Tennessee' Pre-Natal Programme" (Wholey, 1990:83) shown in Figure 2.19 overleaf, would certainly have far reaching consequences for United States government departments. In the 1980s EA had its widest application in the United States Department of Health and Human Services where more than forty EA studies were performed (Strosberg & Wholey, 1983:3).

The proliferation of EAs in government departments in the USA was due to the fact that in 1978, some of the pioneers in the field of EA from the Urban Institute took leadership positions in the Office of the Assistant Secretary for Planning and Evaluation (ASPE) which was responsible for department-wide evaluation, planning, oversight, and guidance. It was from within this group of pioneers that evaluability assessment was promoted and disseminated. Through Wholey's work on EA there

was an increased interest in evaluation circles in the application of programme theory (Wholey, 1979, 1983).

Wholey's "Program Theory for Tennessee' Pre-Natal Programme" (Wholey 1980:83) has the format of the logic models that would become so popular in 1990s – a flow diagram with activities (found under the agency - Local Health Department), intended outcomes and goals. The components of the programme are not clearly aligned but each separate component has its own numbering system.

In addition to his diagrammatic representation of programme theory, Wholey also indicated that a theory could be written in a narrative form:

> If the following program resources are available, then the following program activities will be undertaken.... If these program activities occur, then the following program outcomes will be produced.... If these activities and outcomes occur, then progress will be made toward the following program goals (Wholey, 1987:78-79).

This is the earliest narrative form of a programme theory found during the course of this literature review. The narrative format of articulating programme theory is still widely used today.

Bickman and the American Evaluation Association

With the launch of the American Evaluation Association (1984) the way was paved for TBE to finally take hold. The establishment of this professional organisation and its journal (*New Directions for Program Evaluation*) allowed for greater interaction and debate among evaluators around the topic of TBE (Weiss, 1997a). Leonard Bickman edited the first volume of *New Directions for Program Evaluation* (1987), which dealt entirely with programme theory.

> I was among a small group of evaluators that year who seemed to simultaneously "discover" the need to describe better the underpinnings of the programs that we were evaluating. I was disappointed in the widespread use of black-box evaluations and thought that a New Directions for Program Evaluation would be a good way to sensitize evaluators to this new approach to program evaluation (Bickman, 2000:103).

This publication was a very important milestone in TBE history and can be seen as one of the key moments in the development of this evaluation approach. The journal consisted of six chapters that described both the need for programme theory in planning and evaluation and provided a variety of approaches for understanding and measuring programme theory. Not one of the authors use the term TBE – they all refer simply to "program theory" in evaluation. Bickman's message at the end of the editorial note signalled that the publication was an attempt to define programme theory and provide the evaluator with some key tools to incorporate programme theory in their evaluation approach. He acknowledged that the tools "will require further work" (Bickman, 1987:2) but it was clear the time was right for a programme theory based approach. Bickman not only edited the *New Directions for Program Evaluation* in 1987, but he also contributed to this volume with a chapter on "The Functions of Program Theory". His definition of programme theory has been cited by many evaluators since then due its simplicity:

> Program theory… is the construction of a plausible and sensible model of how a progam is supposed to work. Typically these models are developed for a particular program and do not represent "off-the-shelf" use of a single established social science theory (Bickman, 1987:5).

Bickman's chapter identified the many benefits of using programme theory in an evaluation (1987:7 -13) and he emphasised particularly the fact that focusing on programme theory avoided black-box evaluations. Two prominent evaluators of the time, Huey-Tsyh Chen and Peter Rossi agreed with Bickman about avoiding black-box evaluations, and as the popularity of TBE grew in the 1980s they gradually (1980, 1983, 1987, 1989) developed an increasingly detailed framework for performing, what they termed," Theory-driven evaluation" (TDE[47]) as an alternative to black-box evaluations..

Chen and Rossi's contributions

These two early advocates of TBE put forward what they called "a multi-goal, theory-driven approach to evaluation" (Chen & Rossi, 1980:106) which was developed in response to the phenomenon at the time of many evaluations of social programmes showing no effect at all. In proposing TDE, Chen and Rossi were responding to assertions that the reasons for the "no effect" findings were the result of the limitations

[47]The term Theory-driven evaluation (TDE) is another "brand" (Gargani, 2003) of TBE and so the term will only be used in quotations from the work of Chen and Rossi and when referring to their particular articulation of TBE. In all other instances the term Theory-based evaluation (TBE) will be utilised for the purpose of standardisation.

of prevailing research methodologies or alternatively, poor programme design (Chen & Rossi, 1980:107). Neither of these explanations in their view was correct, as they believed that the real issue was whether the evaluation designs being used were based on a proper understanding of the programmes being evaluated. TDE rests on two key premises, the first is "that every program has some effects", and the second that "*a priori* knowledge and social science theory can adequately anticipate the effects that a given social program can be expected to have" (Chen & Rossi, 1980:107-108). However, the approach to evaluation at the time was to investigate only the stated goals of a programme, and frequently these goals were either vague or poorly articulated as they were developed by programme staff who were often not familiar with social science theories. In addition, at the time evaluation focused primarily on measurability and so the tendency was to only evaluate those outcomes that were quantitatively measurable, which reduced the scope of the evaluation and increased the possibility for finding no effect (Chen & Rossi, 1980:109).Chen and Rossi advocated for TDE as an alternative which entailed "defining a set of effects of a program, some given by the official goals of the program and others derived from social science knowledge and theory concerning the subject matter in question" (Chen & Rossi, 1980:108).

In their early elaboration of TDE Chen and Rossi emphasised the need to draw from social science theory to build programme theory, although 'social sciences have yet to develop an adequate set of theories that are relevant to social problems" (Chen & Rossi, 1980:110). They believed that despite this inadequacy, social science knowledge would assist in determining which outcomes are "most likely" (Chen & Rossi, 1980:110) to be effected by the programme. The multi-goal theory-driven approach offered several advantages over the goal driven approach, particularly the advancement of social science theory as "theory-driven evaluation is more likely to provide adequate knowledge of causal relationships between variables, information that is critical for theory building in any discipline" (Chen & Rossi, 1980:119).

Chen elaborated on his and Rossi's ideas in a special edition of *Evaluation and Program Planning* (1989). Again, as in 1987, this edition focused solely on utilising theory in evaluation. Chen edited the publication which examined different types of models, ways to address validity issues and barriers to use of TBE (Funnell & Rogers, 2011:19). In 1990, Bickman once more edited a special issue of *New Directions for Program Evaluation,* which focused this time on the advances in programme theory, various

methods of developing programme theory, programme types and different ways of testing programme theories (Funnell & Rogers, 2011: 20).

There were now numerous articles and many debates on programme theory but as Chen wrote "currently, the notion of program theory is emerging as one of the major themes in the literature, but to date there has not been a book that provides a full-length treatment of this topic" (Chen, 1990b:11). His seminal book, *Theory-Driven Evaluation* (1990) would provide just that - a "comprehensive framework" for TDE. Chen's contribution to TBE and evaluation as a whole is substantial and he is viewed as one of the most significant developers of the concepts and practice of TBE (Alkin, 2004:27).

Some of Chen's more important contributions to the development of TBE are discussed below.

TBE as an alternative to the experimental tradition

Chen recognised the dominance of the experimental paradigm but strongly believed that it must be supplemented by the development of theoretical models of social interventions (Chen & Rossi, 1983:300). He also described how TBE contributed to advancement in evaluation practice in that a theory-driven approach is not bound to any specific research methods allowing evaluators to focus on important evaluation issues with decisions regarding methods being made on the basis of the actual evaluation requirements rather than a pre-determined set of methods (Chen, 1994: 230).

The distinction between two types of TBE

Chen distinguished between two types of TDE. The first type he labelled *normative evaluation,* which compares the theory of what the programme should be to data on the programme in order to discover any inconsistencies. The second, *causative evaluation* focuses on the causal relationships underlying a programme in order to assess programme impact and understand the causal mechanisms associated with programme effects (Cooksy *et al*., 2001:120). Chen explains that programme evaluators may typically begin with normative evaluation which "assist(s) stakeholders in identifying, clarifying, or developing the goals or outcomes of a program" (1990a:91). Once a programme is underway, then causative evaluation can take place. Chen's distinction is useful as a way of categorising the countless evaluations that carry the name of "Theory-based".

Theory failure or programme failure

Chen built on the work of Suchman (1967) and distinguished between theory and programme failure. If an intervention is unsuccessful it can be attributed to either a failure of theory ("theory failure") or implementation of the theory ("programme failure") (Chen, 1990a:198). Chen indicates that if the theory is incorrect, the intervention will fail no matter how well it is implemented.

Descriptive and prescriptive elements of programme theory

Chen (1990b:7-8) describes two essential components of programme theory - "descriptive" and "prescriptive". The descriptive component focuses on describing or explaining relationships and facts, while the prescriptive part of the theory recommends (or prescribes) the essential components of the programme, i.e. how the programme should be implemented and what goals should be pursued. Chen claimed that both elements were critical when developing a programme theory, as programme evaluation involves not only describing what the programme is, but also what should be done in order to achieve objectives.

The source of theories

Chen (1990b) and Chen and Rossi (1980, 1983) suggested that programme theories should be social science theories and not be just "ad-hoc logical premises". However, he acknowledged that the theories TBE seeks to construct are neither global nor grand but "plausible and defensible models of how programs can be expected to work" (Chen & Rossi, 1983:285). His emphasis on the use of social science theories sets him apart from other evaluation theorists at the time, like Weiss and Wholey who believed in stakeholder involvement in the development of theory. Chen later (Chen, 1994:230) changed his earlier insistence on the use of social science theories as the main criterion for theory development as he described programme theory as "action-oriented" and therefore different from typical social science theory.

Chen (alone and together with Rossi), like Weiss made a significant contribution to the development of the scholarship on evaluation in general, and TBE in particular, with his books and numerous articles. He built on the work of Weiss and his contribution to the theoretical discussion regarding TBE stands in contrast to a large amount of literature in the field that focusses on application of TBE. His work is not always as accessible as that of Weiss, and some of the distinctions he makes, for example between normative

and causative TBE, are difficult to distinguish. Simply the amount of scholarship he contributed on the topic of TBE ensured that TBE was foregrounded in the field of evaluation.

Realistic evaluation

TBE was slowly becoming the alternative to method-driven evaluations and as it grew various theorist began "branding" their version of an evaluation approach which focussed on programme theory. The seminal work of Pawson and Tilley (1997), who developed an approach called Realistic Evaluation, which required explanations of causal mechanisms of programmes was one of these "brandings". They advanced the notion of Realistic Evaluation (evaluating a programme by focusing on what is happening, how and why) with its key thrust on the context-mechanism-outcome relationships, otherwise referred to as the CMO principle:

- C - The context signifies the precise circumstances into which a particular intervention is introduced.
- M- The mechanism is the precise way in which this measure works within the given context to produce a particular 'outcome'.
- O - The outcome is the measured change.

Realistic Evaluation assumes that there is an underlying theory behind the workings of a particular programme or intervention and that this theory explains how the particular programme causes the measured change. The most important aspect of Realistic Evaluation is the overall context in which the programme takes place as change happens, in a particular context, with particular people. In Realistic Evaluation, in order to find the underlying theory of a programme, it is necessary to configure a series of CMOs for each intervention that takes place. Pawson and Tilley developed a "hypothesis grid" (later called Realist matrices) rather than a flow diagram or outcomes chain to represent theory as others had done before. This grid is shown in Table3.5 below.

Table 3.5: Pawson and Tilley's Realist Hypothesis grid (2004:27)

Some plausible mechanisms	Some potential contexts	Some possible outcomes
M1	C1	O1
M2	C2	O2
M3	C3	O3
M4	C4	O4
M5	C5	O5

One of the most noticeable aspects of the grid is that it emphasised that mechanisms (the levers for change) could be different in different contexts. The grid seems to work in a one-to-one relationship, rather than the one-to-many or many-to-one which existed in the path diagrams and outcome chains that preceded it. Pawson argued that context was critical, as causal mechanisms functioned in particular contexts with particular participants. Because of this, Realistic Evaluation attempts to resolve challenges in regard to measurement effects of causation within complex social systems (Pawson & Tilley, 1997). It takes into account that development or social programmes are implemented in open systems, and so the emphasis is on examining the outcomes resulting from the interaction between the mechanism and context (Wilson & McCormack, 2006). The purpose of a Realistic Evaluation is to establish whether there is an "unequivocal causal relationship" between a programme and its outcome. Blamey and Mackenzie (2007) undertook a detailed comparison of Realistic Evaluation (Pawson & Tilly, 1997) and theories of change (Weiss, 1995) and conclude that although they 'may both be from the same stable, they are in practice very different horses' (Weiss, 1995:452). They reach this conclusion based on the differences in conceptualising theory and differences in causal attribution. According to Blamey and Mackenzie (2007:449-450), some of the differences are:

> The theories of change approach argues that the attribution problem can be partly addressed through the process of building consensus amongst a wide group of stakeholders about a programme's theory and then testing the extent to which anticipated thresholds, timelines and outcomes are achieved… Realists, on the other hand, adopt a generative approach to attribution. This is explicitly focused on a cumulative and iterative process of theory building, testing and refinement in relation to specific programme subcomponents. It seeks patterns between interventions and their outcomes, and focuses on the generative mechanism by which the relationship is established.

The differences highlighted by Blamey and Mackenzie indicate that TBE has developed "spin-offs", and what Gargani (2003) terms "brands" of TBE, each with their own conceptual framework and processes. Realistic Evaluation, although using some of the thinking related to TBE, utilises notions beyond those developed by Weiss, Chen, Bickman and Wholey. The complexity (and resulting confusion) around TBE had begun.

Michael Patton included a chapter on TBE in his 1997 edition of *Utilization-focused evaluation*, and acknowledged (Patton, 1997:218) Chen's significant contribution to elucidating the complex processes involved TBE. Rossi *et al*. (1999) also included a chapter on programme theory and logic modelling for the first time in the sixth edition of their book on evaluation. TBE had become a part of mainstream evaluation literature having made its way there from various domains. It had now been established as a viable, even preferable alternative to the black-box evaluation approach that had been in place for many years. Much of the thinking about TBE processes had been put in place particularly by leading evaluation scholars Wholey, Weiss and Chen, and given the stamp of approval by other key evaluation theorists. Evaluators could now begin to apply this approach in their own fields. This was exactly what we see occurring in the next phase of TBE development.

Table 3.6: The establishment of TBE (1980 -1999)

Date[48]	Concept	Contributor	Link to TBE
1980	Theory-Driven Evaluation	Chen and Rossi	A range of publications in the 1980s on notion of theory and processes for TDE
1983	Evaluability assessment	Wholey	Checklist and programme theory models
1986	American Evaluation Association Founded	American Evaluation Association	Forum allows for discussion on evaluation approaches
1987	Bickman edits first volume of *New Directions for Programme Evaluation*	Bickman	Publication focused entirely on programme theory
1989	Chen guest edits for a special issue of *Evaluation and Program Planning*	Chen	Publication focuses on TDE, validity and barriers
1990	Bickman edits another volume of New Directions for Program Evaluation	Bickman	Publication focuses on advances in programme theory
1990	*Theory-Driven Evaluation*	Chen	First book solely on TDE – Distinction between normative and causative evaluation and six domain theories defined
1997	Realistic Evaluation	Pawson and Tilley	A particular brand of TBE is advocated
1997	*User-Focused Approach to Evaluation*	Patton	Acknowledges the role of Chen in development of TBE and the value of TBE
1999	*Program Evaluation: A Systematic Approach*	Rossi, Freeman and Lipsey	First time a chapter on programme theory and logic models added to this seminal work

[48] The date column in the table refers to the first published work of the contributor relevant to the link of TBE. The dates are not in absolute chronological order rather they follow a content chronology i.e. how one author built on the ideas of his/her predecessor.

Summary – Phase 3

Phase 3 in the development of TBE saw TBE established as an alternative evaluation approach to method-driven evaluation that had been the key approach for so many years. Chen, Rossi and Weiss's scholarly contribution to the field of TBE added to the credibility of the approach and Wholey's assimilation of Evaluability Assessment into USA government evaluation processes ensured that TBE had emerged from a set of disparate roots to become an established evaluation approach. Once more, as in Phase 2 the role of the professional association for evaluators – now the American Evaluation Association – provided a forum to share experiences, debate issues and promote the practice of TBE. One of the key ways in which advocacy for TBE occurred was through three special editions on the use of programme theory in the newly established evaluation journals. Leonard Bickman played a key role in this advocacy.

3.4.4 Phase 4: The current state of TBE (2000 -)

> Interest in program theory has grown significantly since two previous New Directions volumes on the topic (Bickman, 1987, 1990). More agencies and organisations, both in the United States and abroad, are at least paying lip service to program theory. Federal research funders such as the National Institutes of Health now require discussions of program theory in applications submitted for evaluation support. Many not-for-profit agencies have followed the United Way's lead in developing performance measures based on a generic causal model of inputs-processes-outputs-outcomes (Hatry, van Houten, Plantz & Greenway, 1996). Arguments for including program theory in evaluation are now appearing not only in evaluation journals but also in discipline-specific journals, such as those in education, criminology, and sociology. The largest-selling evaluation textbook, Program Evaluation: A Systematic Approach, has now, in its sixth edition, added a chapter on this approach (Rossi et al., 1999). Similarly, Evaluation Models: Evaluation of Educational and Social Programs (Stufflebeam, 1983) has added a chapter on program theory evaluation in its second edition (Rogers, forthcoming) (Rogers, et al., 2000:6).

As described in this extract from an article by Rogers *et al.* in 2000, TBE has become very popular in recent years (Donaldson, 2003; Gargani, 2003; Rogers, 2007; Rosas, 2005; Stame, 2004) and has been advocated by numerous evaluation theorists and practitioners, and applied by even more. As Gargani (2003:8) points out, "…TBE appears to be one of the few evaluation approaches that, while not universally endorsed, is widely

applied". There are numerous articles [49] describing how evaluators have utilised programme theory in their evaluations or have utilised the models (such as logic models or theory of change models) that have come to be associated with TBE.

This section, which focuses on the current state of TBE, will focus on the work of Patricia Rogers particularly, as she has contributed significantly to the thinking around this approach since 2000. Other evaluation theorists who have contributed to the development of TBE since 2000 will be discussed briefly, but mainly in relation to the work of Rogers.

Rogers

Patricia Rogers is a strong advocate for TBE and has written extensively on this topic since 1999 (Owen & Rogers, 1999). She is currently Professor in Public Sector Evaluation at RMIT and project director of BetterEvaluation (www.betterevaluation.org), which is a web-based platform for improving evaluation practice and theory. Not only has Rogers published many articles and co-authored books on the topic of programme theory in evaluation, she has, like Bickman and Chen, also edited and contributed to a volume of an evaluation journal dedicated to TBE (Weiss, 2000:87). Her writings often reflect on the contributions of her predecessors in the field, and she particularly refers to the contributions of Weiss. Some of Rogers' key ideas[50] about TBE are discussed below.

TBE versus the Black-box

Rogers (2000:213-215) like other evaluation theorists (Bickman, 2000; Chen 2005b; Chen & Rossi, 1997; Stame, 2004; Weiss, 1997) who advocated TBE, criticises black-box evaluations. She describes categories of evaluations as a continuum with black-box evaluations on one end, and on the other end there are evaluations which focus on programme theory which are able to describe parallel chains of causal mechanisms. She describes how black-box evaluations analyse the correlations and associations between programme activities and intended outcomes, suggesting some predictors but no model

[49] The literature review for this chapter revealed 43 articles that discussed application of either TBE or the use of models associated with TBE. In addition there were 47 that dealt with the actual processes of TBE or logic modelling.

[50] This brief section does not attempt a chronological review of Rogers' substantial contribution to the field of TBE or evaluation broadly but simply highlights a few of the key issues with have significance to the current topic – a history of the development of TBE.

of mechanisms linking activities with outcomes, while TBEs explore the chain of mechanisms that link programme activities with intermediate and ultimate outcomes (Rogers, 2000a:213-215). These are "more useful evaluations and better evidence for policy" (Funnell & Rogers, 2011:12).

Components of TBE

Rogers (2000a:212) refers to two essential components of TBE, namely explicitly articulated theory and/or a model and an evaluation. A major purpose of TBE is to rigorously examine the validity of programme theories to determine whether the programme brings about intended change, or outcomes, in the theorised manner. Phrased slightly differently in another paper, Rogers *et al.* (2000:5) write that TBE has two essential components, which are empirical and conceptual in nature. The former comprises an explicit model of the programme, including the mechanisms by which programmes activities are understood to contribute to intended outcomes. The latter comprises an evaluation which is guided by this model.

Confusing terminology

Rogers (2000a:211) like many of her contemporaries (Astbury & Leeuw, 2010; Brousselle *et al.,* 2007; Coryn *et al.,* 2011; Donaldson, Gooler, & Scriven, 2002; Gasper, 2001; Rogers *et al.*, 2000; Hansen & Verdung, 2010) and of course Weiss (1997) before her, acknowledges the existence of multiple and – in some cases - confusing definitions of TBE. In her discussion of the word "theory" she contends that a major problem is that this term usually denotes a system of complex hypothetical and empirical tenets. However, for the purposes of TBE 'theory' is far more unassuming. At times, it is merely a speculation of how a programme's actions will lead to its intended outcomes (Rogers, 2000a:211-212). By implication, it may seem that these evaluations are in fact, a-theoretical. Given that TBE is always based on a model of a programme, Rogers argues that it may have been more sensible to use the term 'programme model evaluation'. The use of the word "model" was also recommended by Weiss to represent programme theory:

> The word model might be more apt (Earp and Ennett, 1991); it is less pretentious, but, alas, it has been used so often with so many different meanings that is almost void of substance. Therefore, I go with the theory flow. (Weiss 1997a:502)

"Programme model evaluation' which focussed on programme "models" perhaps would have been a more accurate descriptor for conveying what many evaluations claim to do

under the umbrella term of TBE. Rogers continues to elaborate on her discussion on the topic of confusing terminology in the field of TBE in her latest publication with Sue Funnell, where they list 24 terms used to describe evaluation that focuses on the theory of a programme (Funnell & Rogers, 2011:23-30).

Defining programme theory

The definition of programme theory developed by Funnell & Rogers (2011) is aligned with other evaluation theorists (Chen, 2005b; Leeuw, 2003; Rogers, 2007; Scheirer, 1987; Weiss, 1997a) who distinguish between programme theory and programme logic:

> A program theory is an explicit theory or model of how an intervention contributes to a set of specific outcomes through a series of intermediate results. The theory needs to include an explanation of how the program's activities contribute to the results, not simply a list of activities followed by the results, with no explanation of how these are linked, apart from a mysterious arrow. We find it helpful to think of a program theory as having two components: a theory of change theory and a theory of action (Funnell & Rogers, 2011:31).

Rogers *et al.* (2000:7) suggest that programme theory at its simplest indicates a single intermediate outcome by which the programme achieves its ultimate outcome. More complex programme theory demonstrates intermediate outcomes, often in multiple threads which merge to cause the ultimate outcomes. Programme theory is also often represented by diagrams of boxes with the labels inputs, processes, outputs and outcomes with interconnecting arrows. These relationships are sometimes explored in the empirical part of the evaluation (Rogers *et al.,* 2000:8).

The complexity of focusing on theory in evaluations

Rogers (2007:64) reiterated Weiss's (1997a) warnings about three key challenges when using programme theory. Weiss labelled these challenges:

a) type
b) quality and
c) use of programme theory

and stated that TBE practitioners need to continuously assess their work against these three traps. Firstly, the type of theory often used in programmes is implementation theory rather than programmatic theory. While the latter focuses on mechanisms causing any underlying changes, the former focuses on activities and some intermediate outcomes (Weiss, 1997a, cited in Rogers, 2007:64). This falls short of programme theory

conceptually, as it does not examine different and alternative causal strands and mechanisms in achieving outcomes (Rogers, 2007:64).

Rogers (2007:65) notes that the second issue Weiss raised is the quality of programme theory, which is too frequently based on practitioners' logical reasoning and assumptions. Rogers suggest that the quality of theories could be improved through:

a) logical analysis of alternative causal explanations
b) use of existing relevant research
c) understanding of how clients and beneficiaries understand the theory and
d) testing the theory against the data.

Weiss's third concern was how programme theory is put to use in evaluations, as even when a theory has been developed by evaluators, she observed that it is often not put to good use in guiding the evaluation. Weiss warned that this should not merely be a simplistic evidence-gathering exercise about each component in the logic model of asking 'did this happen?' There should rather be a well-articulated performance story, addressing the essential issues of causal attribution. Rogers (2007:65) notes that this problem is decreasing due to an increase in the measurement of performance and operationalization of variables based on programme theory.

It is interesting to note that Rogers again raised two of Weiss' three challenges on *BetterEvaluation* (a blog post from May 2013) indicating that Weiss' warnings are still just as pertinent today as they were almost twenty years ago:

> Some so-called theories of change don't actually explain how change comes about. The diagram can be read as "We do stuff, and stuff happens." and the only explanation is an arrow between boxes.

Rogers identifies three methods[51] for improving programme theories:

- Identify a causal mechanism theory and an action theory

A theory of change ideally has two components – a causal mechanism theory, which explains how change occurs, and an action theory, which explains how the program activities trigger the change process …

- Draw on research-based theories of change

Research of various kinds can provide potentially relevant theories about how change occurs for individuals, families, households, and communities…

- Use an outcome hierarchy format for the logic model rather than a pipeline

A third strategy to make it easier to articulate an actual theory of change is to use a different format for representing it in a diagram. In particular, it is often useful to show it as a chain of outcomes rather than as a pipeline diagram of inputs-processes-outputs-outcomes-impacts… (Rogers, 2013).

Causal attribution

Rising to the challenges posed by causal attribution in TBE, Rogers (2007:66) recommends designing better experiments by combining programme theory with other techniques of understanding causal attribution. She argues that programme theory can be used to develop "testable hypotheses" of the Popperian brand. These hypotheses could be tested using non-experimental methods (Pawson & Tilley, 1997; Tilley, 2000, cited in Rogers, 2007:66). Variations of different levels of implementation and different contexts of implementation could translate into opportunities to test more hypotheses. This would construct stronger cases for indicating that programmes contribute to observed outcomes and how this occurs. This, in turn, would make the development of programme theories more rigorous (Rogers, 2007: 66). In this way, stronger models for continued use in TBE can be developed and refined.

Mechanism

Rogers (2000a:212) emphasises in all her writings that TBE should begin with the development of a programme model which in turn guides the evaluation. She emphasises that the most important characteristic of programme models is that they include mechanisms (Rogers, 2000a:212). Only then can the next step be taken of designing an evaluation based on this model. Different models will determine different types of data collection and analysis (Rogers, 2000a:217).

[51] Some detail from the webpage have been omitted in the interest of space.

Complicated and complex interventions

In a recent publication, Rogers (2008) investigates the use of programme theory to evaluate interventions which are simple, complicated, or complex in nature. Rogers (2008:29) writes that "...life is not simple, but many of the logic models used in program theory evaluation are". She writes that many logic models present a single theory of change and have a single, linear causal path - and that these have their appropriate place but may not always be accurate or sufficient (Rogers, 2000b:33). Wholey (2003, cited in Rogers, 2008:34) argues that the simple logic model suits a narrow range of interventions which are primarily results-oriented and have goals that can be quantified and measured relatively easily. Rogers suggests that simple logic models are put to best use either in aspects of an intervention which are homogeneous, tightly controlled and well-understood or where only a broad description of the intervention's causal intention is called for (Rogers, 2008:35).

Simple logic models are unlikely to represent varying stakeholder views regarding desired outcomes and their views on how to achieve these. Bakewell and Garbett (2005:19, cited in Rogers, 2008:34) have argued that in certain instances, simple logic models depict a theory of change which borders on being an ideology, which is used as a tool to impose ideas on communities.

Rogers (2008:34) suggests that it is often the case that programme evaluation is necessarily a complicated and complex process, due to the chaotic world we live in. She quotes Eoyang *et al.* (cited in Rogers, 2008:34) who aptly describe the distinction between espoused theory and actual experience and how "resources are wasted in the pursuit of the perfect and controlled response", when in fact the world comprises complex adaptive systems. There is a quest for linear, tangible, explicit explanations of the world around us, which in turn leads to a false sense of security about being able to control life. Rogers (2008:45) states that, "The anxiety provoked by uncertainty and ambiguity can lead managers and evaluators to seek the reassurance of a simple logic model, even when it is not appropriate". Rogers (2008:35) adds that there is immense skill involved with knowing when and which models to use and in which context/s. This necessitates an understanding of what comprises complicated and complex problems, interventions and programme theory.

It is important to note that while Rogers is one of the greatest advocates of TBE, many of the key issues raised in this discussion of her work points to the challenges and complexity of carrying out TBE in a rigorous and authentic manner.

Current state of TBE

Despite growing interest and literature on the TBE approach, few studies apply the approach in practice (McLoughlin & Walton, 2010). One theorist who has attempted to unpack the complex challenges of TBE is Donaldson with his publication *Program Theory-Driven Evaluation Science: Strategies and Applications* (2007). Donaldson's particular brand of TBE is called Theory-Driven Evaluation Science and his latest publication focuses on the application of TBE as an approach and so is very practical in nature. He claims that although there are a large number of publications on TBE, very few deal with the practical issues of utilising TBE, and so his publication and website (http://sites.google.com/site/programtheory) are very practical in orientation. Like Rogers, Donaldson acknowledges the confusion around TBE and therefore states that he wrote his book to address

> the great deal of confusion today about what is meant by theory-based or theory-driven evaluation and the differences between using program theory and social science theory to guide evaluation efforts. For example, the newcomer to evaluation typically has a very difficult time sorting through a number of closely related or sometimes interchangeable terms such as theory-oriented evaluation, theory-based evaluation, theory-driven evaluation, program theory evaluation, intervening mechanism evaluation, theoretically relevant evaluation research, program theory, program logic, logic modelling and the like (Donaldson, 2007:9).

The "confusion" that Donaldson refers to is not limited to terminology alone but the processes involved in TBE. Because of this there are those in the evaluation community who are very critical of TBE:

> Scriven (1998:59) finds that much of what passes as theory-based evaluation today is simply a form of 'analytic evaluation [which] involves no theory in anything like a proper use of that term' (cited in Leeuw & Vaessen, 2009). Stern et al. (2012) also reviewed existing evaluation examples and found that theories of change were not routinely articulated even when this would have helped draw causal inferences. Coryn et al. (2011), who undertook a systematic review of TBE practice from 1990 to 2009, concluded that additional exemplars of TBEs are seriously needed, including

> reports of successes and failures, methods and analytic techniques, and evaluation outcomes and consequences (Carter, 2012:9).

Scriven (1998, 2004a, 2004b) and Stufflebeam (2001, 2004) continue to assert that there is little need for theory in evaluation. Scriven (2004a) has indicated that, "It's possible to do very good program evaluation without getting into evaluation theory or program theory", and (2004b) declared that "the most popular misconception amongst currently politically correct program evaluators is the evaluation of a program (a) requires that you have, or (b) is much benefited by having, a logic model or program theory". Similarly, Stufflebeam (2001) in a review of evaluation models and theories of evaluation practice, remarked that "there really is not much to recommend theory-based evaluation, since doing it right is usually not feasible and since failed or misrepresented attempts can be counterproductive." More recently, Stufflebeam (2004) claimed Braybrooke and Lindblom (1963:253) discredited the notion of theory-driven evaluation forty years ago, and their message clearly needs to be revisited by modern day evaluators.

In addition, there is great resistance (Bornstein 2003, Bornstein 2006, Hendricks *et al.* 2008) from Non-governmental organisations (NGOs) and other funded organisations like Community-based organisations (CBOs) towards TBE and logic models which have come to be associated with the approach.

TBE has attracted many supporters as well (Coryn *et al.*, 2011). Many evaluators today seem to argue that theory does, and should, play important roles in modern program evaluation (e.g., Alkin, 2004; Chen, 2004; Christie, 2003; Donaldson, 2003, 2007; Donaldson & Lipsey, 2006; Fetterman, 2003; Mark, 2003; Rogers, 2000a; Rossi, Lipsey & Freeman, 2004; Shadish *et al.*, 2002; Weiss, 2004a, 2004b). This acceptance and advocacy by many in the evaluation community has had an impact on many of the donor agencies which have adopted some or other form of theory-based evaluation. Organisations that have increasingly promoted a TBE approach in international development settings include the Overseas Development Institute (ODI), the International Initiative for Impact Evaluation (3ie), the United Nations Evaluation Group (UNEG) and the Independent Evaluation Group (IEG) of the World Bank for evaluating humanitarian efforts, among others. But as Gargani points out:

> The popularity and widespread practice of TBA, however, are due to a number of other factors that (very much in the spirit of TBE) are difficult to identify and isolate. These include (1) the utility that practicing evaluators find or at least perceive in the

> practice of TBE; (2) the compatibility of TBE with popular management theories and practices, such as management by objectives, process-flow analysis, and total quality management; (3) the rise of advanced statistical tools, such as path analysis and structural equation modeling, that helped TBE integrate with advanced research methods; and (4) a need within the profession to demonstrate its import and legitimacy to both professional and academic audiences. (Gargani, 2003:8-9)

In one form or another, TBE and its associated practices, like logic modelling, have been widely adopted, including evaluations conducted for and commissioned by the WKKF (1998, 2000) for evaluating their community change initiatives, the United Way of America (1996) for evaluating their health, human service, and youth- and family-serving efforts, and the Centers for Disease Control and Prevention (CDC: Milstein, Wetterhall & CDC Working Group, 2000) for evaluating public health programs and interventions. More recently, such approaches have been suggested as a means for evaluating military operations in the United States (Williams & Morris, 2009) as well as in a variety of other fields, settings, and contexts (Trochim, Marcus, Masse, Moser & Weld, 2008; Urban & Trochim, 2009; Weiss, 1997a).

The American Evaluation Association (AEA) has a Topical Interest Group on programme theory and TBE (http://www.eval.org/p/co/ly/gid=46). There are numerous guides on Theory of Change processes (for example Aspen Institute, n.d.; Casey Foundation, 2004; GrantCraft, 2006; INSP, 2005) and logic models (for example Harvard Family Research Project, 1999, 2009; UWEX, 2003; University of Wisconsin, 2008; WKKF, 2004) and the use of these models associated with TBE have grown enormously. A detailed study of the models and logframes will be carried out in the next chapter.

3.5 Concluding remarks

I have set out in this chapter the varied seeds from which TBE grew, and how this concept was developed by key theorists into what it is today. In a recent report, GSDRC who examined whether TBE has a coherent and defined approach to evaluation, found that despite the rich history and literature on TBE "few studies apply the approach in practice" (Carter, 2012:9). What this means is that few evaluators carry out this approach in the strictest sense of the approach, as per Weiss, Chen and Rogers, but many evaluators use programme theory or programme model (Rogers, 2008) in some way in their evaluations today. The tools associated with the approach have perhaps become

the greatest remnant of the approach and are used widely by donors in an attempt to improve the planning, management, evaluation and accountability of the programmes they fund. The rest of this study examines the development of logic models and logframes and their use in NGOs in South Africa today.

CHAPTER 4: THE ARCHAEOLOGY OF LOGIC MODELS

4.1 Introduction

It is almost impossible to extract a history of the models or graphics associated with Theory Based Evaluation (TBE) that is separate to the development of TBE itself, as described in Chapter 3. Many of the contributors to the development of TBE also contributed to the development of the processes and formats which were used to depict programme theory or key components of a programme. Some of these models are associated more closely with TBE as they attempt to represent the theory (causal effects) of an intervention while others are not, as they represent the logic (sequence of components) of an intervention.

As the popularity of TBE grew, so did the popularity of graphics that represented the theory or logic of interventions such as theory of change models (ToCs), logic models (LMs) and logframes (LFs), which are tools used in support of project management, planning and evaluation. This chapter traces the origins and development (hence "archaeology") of these models and although LMs and LFs are focussed on in separate sections, it must be emphasised that there is an overlap in the factors affecting the development of all the models and also in the terminology used to describe them.

The chapter is divided into four main sections. Section 1 focuses on the development of LMs and is divided into five phases, as shown in Figure 4.1 below:

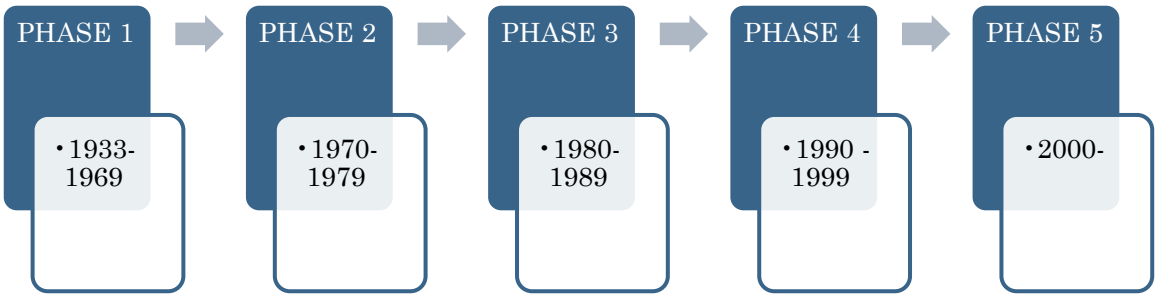

Figure 4.1: The five phases of logic model development

Each of these phases presents a brief discussion on the contextual factors and some of the key contributors to the model development in that phase. There were obviously many practitioners and scholars who could have been included as contributors to each of the phases but those foregrounded in this chapter were chosen either because of the

impact they had on the overall development of models and/or the number of publications he/she had in the field of logic modelling.

Section 2 focuses on the development of logical frameworks (LF) and utilises the concept of "generations" of logical frameworks originally developed by Sartorius (1996). Section 2 begins with an examination of the various definitions of logical frameworks and then moves on to a discussion of the five generations of logical frameworks. Figure 4.2 outlines the time frames of the different generations:

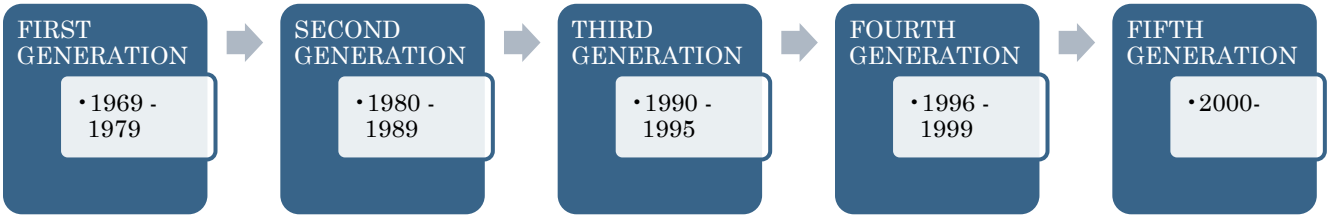

Figure 4.2: The five generations of logical framework development

Section 3 examines the development of the range of technical support that has developed to support LMs and LFs, followed by Section 4 which presents an overview of the key issues in the development of both logic models and logical frameworks. The discussion of the five phases is preceded by an examination of the various definitions of logic models.

Section 1

4.2 Logic Models

4.2.1 Definitions of Logic Models

In Chapter 3 twenty different terms were listed which are used to describe an evaluation approach that involves utilising programme theory. Sometimes these terms are used interchangeably, but in some cases authors use slightly different terms usually to distinguish their own "brand" of evaluation that utilises programme theory. This has resulted in a plethora of terminology used to describe the models or graphics that

represent the logic of programmes and their underlying theories. As Donaldson (2007:23) points out:

> There are now a wide variety of ways to represent a program theory. However, there does not seem to be consensus in the literature today about how best to diagram or describe it. For example, program theory is sometimes described by a logic model, program model, theory of change, cause map, action theory, intervening mechanism theory and the like.

When reviewing the literature in this area, it is clear that there is no standardised or comprehensive definition for the term "logic model". Table 4.1 shows a range of the key components of LM definitions from nineteen articles, books and manuals reviewed. The table shows that LMs are generally described as a *visual representation*. What comprises that visual representation is dependent upon the source of the LM.
LMs can

- articulate programme components (activities, outputs, outcomes etc.) and/or
- show the relationship between those components and/or
- describe the conditions in which a programme takes place and/or
- indicate the causal mechanisms of the programme.

Table 4.1 depicts the spread of possible combinations of these elements and indicates that the most common element of LM definitions[52] is that it is a *visual representation* (present in 17 of the 19 definitions) – only the definition by Kumpfer *et al.* that refers to "a logical series of statements" (cited in Julian *et al.*, 1995:33) rather than a graphic, and the Harvard Family Research Manual (n.d.) that does not directly refer to this element at all. The second most common element (16 of the 19 definitions) is the reference to *programme components* (such as activities, outputs, and outcomes), and thirdly (12 of the 19 definitions) is some reference to the relationship between the components of an intervention. The inclusion of the seven references to theory or mechanism is primarily because the term *logic model* and other terms, such as *causal model*, *programme theory* or *theory of change/model*, are often used interchangeably, and also because these authors (Cooksy *et al.*, 2001; Frechtling, 2007; Funnell & Rogers, 2011; Harvard Family Research Manual, n.d.; Rogers, 2008; Kaplan & Garrett, 2005; Hawkins *et al.*, 2009) foreground a different purpose for LMs – to articulate the casual mechanism of an

[52] Four logic model guides do not provide a clear definition (what it is, as opposed to what it does) of logic models (Healthy Teen Network, 2008; Innovation Network, n.d.; Cyfernet, 2000; UNESCO, 2009) and two refer to the W.K. Kellogg's definition (Goodtstadt, 2005; CDC, 2003).

intervention. It is interesting to note that authors refer to a well-known statement by Leonard Bickman, "Program theory, as defined in this chapter, is the construction of a plausible and sensible model of how a program is supposed to work" (Bickman, 1987:5) and simply replace the words *Program theory* with *Logic Model* (see McLaughlin & Jordan, 1999; Betts & Stuart, 2002; Renger & Titcombe, 2002:493).
The least frequent component of definitions of LMs is *conditions*. This is an element which is foregrounded in Realist matrices.

The analysis of the definitions in Table 4.1 is useful for highlighting the fact that there is an inconsistency in how the term LM is used, and that more authors in the reviewed literature refer to a LM when they refer to a model that focuses on programme components and relationships or links between components, rather than explicitly on the causal mechanism or theory of the programme. As with TBE, there are many terms that are used interchangeably when describing the models associated with this approach, which has led to a fair amount of confusion amongst donors, evaluators and programme staff (Astbury & Leeuw, 2010; Brousselle, Lamothe, Mercier & Perreault, 2007; Coryn, Noakes, Westine & Schröter, 2011; Davidson, 2000; Gasper, 2001; Hansen & Vedung, 2010; Weiss, 1997b).

Table 4.1: Elements of definitions[53] of logic models (n=19)

Source type	Title	Visual representation	Programme components	Relationships	Conditions	Mechanism/ Theory
Manual	CDC (2003:6)	1	1			
Article	Conrad, Randolf, Kirby and Bebout cited in Scarinci and Johnson (2009:222)	1	1	1		
Article	Cooksy, Gill and Kelly (2001:119)	1	1	1		1
Book	Donaldson (2007:24)	1				
Book	Frechtling (2007:1)	1	1	1	1	1
Book	Funnell and Rogers (2011:33)	1				1
Manual	Harvard Family Research (2009:2)	1	1	1		
Manual	Harvard Family Research (n.d.:1)		1			1
Article	Hawkins, Clinton-Sherrod, Irvin, Hart and Russell (2009:30)	1	1		1	1
Article	Kaplan and Garrett (2005:167)	1	1	1		1
Article	Kumpfer, Shur, Ross, Bunnell, Librett, & Millward (1993)		1	1	1	
Manual	Medical Reserve Corps (n.d.:1)	1	1	1		

[53]The full definitions are listed in Appendix 1.

Source type	Title	Visual representation	Programme components	Relationships	Conditions	Mechanism/ Theory
Book	Patton (2002:62, 163)	1	1	1		
Article	Rogers (2008:30)	1				1
Manual	United Way (2008:3)	1	1	1		
Manual	University of Wisconsin-Extension (2003:11)	1	1	1		
Manual	University of Toronto HCU (2001:1)	1	1	1		
Manual	WKKF (2004:1)	1	1	1		
Manual	Wilder Research (2009:4)	1	1			
		17	**16**	**12**	**3**	**7**

Some LMs focus purely on the logic and sequence of programme components, while others focus on the theory underpinning the programme and, although these models may look very similar, their purpose and use can be quite different, as Astbury and Leeuw (2010:365) explain:

> In particular, while the terms "program theory" and "program logic" are often used interchangeably by evaluators, there appears to be growing recognition that they actually serve different functions (Chen, 2005; Leeuw, 2003; Rogers, 2007; Scheirer, 1987; Weiss, 1997a). Program logic is often used to identify and describe the way in which a program fits together, usually in a simple sequence of inputs, activities, outputs, and outcomes. Program theory goes a step further and attempts to build an explanatory account of how the program works, with whom, and under what circumstances. Thus, program theory might be seen as an elaborated program logic model, where the emphasis is on causal explanation using the idea of "mechanisms" that are at work.

Astbury and Leeuw (2010:366) make the point that although programme logic and program theory can be used in a complementary fashion, this does not seem to be common practice in evaluation. In addition, although some evaluations may be labelled as TBE, very few actually focus on the theory of the programme (Davidson, 2000:18). More often than not, evaluations use LMs to focus data collection on programme components rather than on whether the theory behind the intervention is accurate or appropriate in terms of achieving expected benefits for the target group.

Michael Quinn Patton (an evaluator with over 50 years' experience in the field) acknowledges that attention to programme theory has become a major focus in evaluation research and with that attention has come confusion around the terminology associated with TBE. Patton (2002:162-163) describes why the terms LM and ToC should not be used interchangeably:

> A logic model or theory of action depicts, usually in graphic form, the connections between program inputs, activities and processes (implementation), outputs, immediate outcomes, and long-term impacts... I distinguish a logic model from a theory of change. The only criterion for a logic model is that it be, well, logical, that is, that it portrays a reasonable, defensible, and sequential order from inputs through activities to outputs, outcomes, and impacts. A theory of change or theory of action, in contrast, bears the burden of specifying and explaining assumed, hypothesized, or tested causal links. Logic models are descriptive. Theory of change and theory of action models are explanatory and predictive.

This description of LMs versus ToCs is useful as it hints at the confusion, both in terminology and the role that LMs play in evaluation. Patton makes it clear that a LM's only function is to show the connections between programme components. LMs must have a "reasonable, defensible and sequential order" of programme components. This is different to a ToC, which "bears the burden of specifying and explaining assumed, hypothesized, or tested causal links". The LM does not have to indicate what the mechanism for change for an intervention is, only the logical order of programme components. Astbury and Leeuw (2010:365), like Patton, blame the interchangeable use of terms such as LM and program theory model for the current confusion in evaluation literature and practice, but indicate that "there appears to be growing recognition that they actually serve different functions (Chen, 2005a; Leeuw, 2003; Rogers, 2007; Scheirer, 1987; Weiss, 1997a). It is not simply a case of looking at a graphic and deciding that it focuses on the logic or a theory of a programme, as it depends on how the model was developed, how it is used in the evaluation process and what other documents accompany the model. Just as the definitions of logic models contain a mix of a reference to programme components and theory, evaluation literature also contains visual representations which are labelled "logic models" but which may contain either programme components and/or a representation of the causal mechanism or theory of the programme. The context of the evaluation should determine which is used – the LM or ToC, or both, if needed. If one is interested in depicting – in a tabular, flowchart or narrative – the logical relationships between programme elements, then the LM or LF is appropriate. If one wishes to explain why and how the programme works and why it is expected to achieve the intended benefits, then the ToC is the best way to do so. This can also be done in a tabular, flowchart or narrative format.

This study uses Patton's distinction between LMs and ToCs, however, as Gargani points out, the distinctions between the various terms associated with TBE, the models associated with it and the purpose of the model in an evaluation is not so easy to disentangle as evaluators often "borrow ideas and methods from all three[54] brands" (Gargani, 2003:33). We now turn to the development of LMs which spans at least 55 years.

[54] Gargani refers to three brands of TBE – theory driven evaluation, logic models and logframe analysis (2003:33).

4.3. Phase 1 (1933 - 1969)

4.3.1 Contextual Factors[55] -

Many developments in the first half of the 20th century contributed to the modern era of programme evaluation in general, and the development of logic models in particular. One of the key developments was the growth and refinement of the theories and methods of social- and business sciences, and the attempt to apply these theories and methods to social problems (Mathison, 2005:185). In Chapter 3 a detailed examination of the influence of researchers (in the fields of education and management particularly) on project management and evaluation approaches (particularly TBE) was presented. These researchers were experimenting with methods to tackle problems (like improved production or depicting understanding learning processes to improve curricula) and the logic underpinning these processes, and began to use graphics to depict the underlying logic. We therefore see the antecedents of logic models in the fields of education and management long before there was an uptake of the processes and graphics associated with the logic of interventions in the field of evaluation.

Besides the growth and refinement of theories in social science and management, one of the largest influences on programme evaluation development was the expansion of government social programmes in the United States of America in the 1930s. This rapid expansion continued for approximately thirty years[56], as various presidents came into power and responded to the social and economic factors of the time. Mathison (2005:185) elaborates on the first phase of expansion of social programmes in the USA:

> The first stage of this expansion occurred as a result of the Great Depression in the 1930s. The crash of the stock market and the subsequent run on the banks crippled the nation's economy. Many Americans were left unemployed and living below the poverty level. A multitude of relief agencies was legislated under the rubric of President Franklin D. Roosevelt's New Deal. Such agencies provided aid in the form of employment relief and opportunity, housing assistance, and health provisions. None of these programs put an end to the Great Depression, but federal support for social programs was growing.

[55] All the contextual factors in this section are related to influences at work in the USA as this is the origin of both logic models and logframes. The uptake of these tools has been international. An internet search on use of logic models by in countries around the world showed that they are used in Alaska, Australia, Canada, Hawaii, New Zealand, Scotland, South Africa, Thailand, United Kingdom, USA amongst others. The extent of their use in government agencies, donors and NGOs is widespread.

[56] After this Richard Nixon came into power and cut back on many of the social programmes.

Roosevelt's administration introduced a range of legislation (termed the New Deal) covering social, economic and financial issues that was aimed at transforming the American economy, which had been devastated by the Wall Street Crash. This was followed by a series of legislation passed by subsequent American presidents - Truman's Fair Deal aimed at including minorities who had been excluded from previous legislation; Eisenhower's No Deal, which stopped the spread of the existing social programmes but expanded Social Security coverage; and John F. Kennedy initiated numerous social programmes to address poverty and expand unemployment benefits. Many of the programmes introduced by these leaders were later expanded under President Johnson after 1963 in his War on Poverty, which focused not only on eliminating poverty but also on racial injustice (Nazar, 2006:1-3). A summary of the various of social programmes entrenched through legislation is depicted in Figure 4.3.

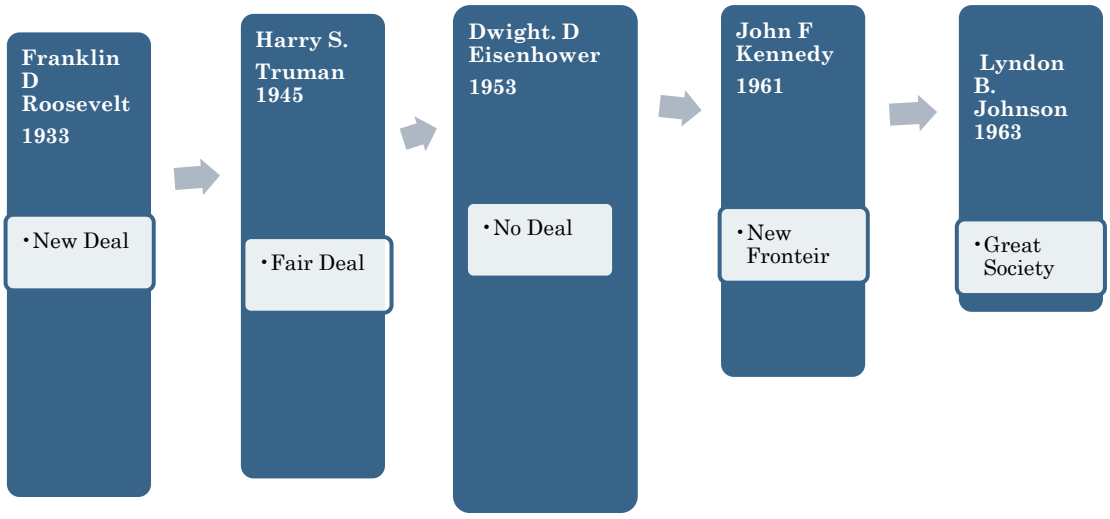

Figure 4.3: Government social programmes implemented by USA presidents (1933 - 63) (Source Nazar, 2006:1-2)

With the plethora of government supported interventions designed to ameliorate social problems, it is not surprising that the need for finding out whether these interventions made any difference to the intended beneficiaries gained impetus in this period. Mathison (2005:186) states:

> Thus, beginning in the 1960s, evaluation grew and flourished as a profession. Vital to its establishment as a profession was legislation mandating and funding it. This development can be traced only inexactly. Early federal programs to require evaluation included the Juvenile Delinquency Program and the Manpower Development and Training Act, both in 1962; the Economic Opportunity Act of 1964; and the Title I (compensatory education) section of the Elementary and Secondary

> Education Act. These acts, and others, provided major funding for evaluation. Between 1968 and 1978, more than 100 federal statutes called for evaluation in the area of education alone.

With the sudden demand for evaluation of this multitude of government social programmes, there was also a growing need for a tool which was focused and could highlight simply and clearly what programmes aimed to achieve. Coupled with this was the growth in the need for programme accountability, as tax payers' money was being spent on so many social programmes (Millar, Simeone & Carnevale, 2000:73):

> The national and international drive towards accountability, fuelled by the Government Performance and Results Act (GPRA) and related initiatives, has intensified this focus on examining the "black box" between inputs and outcomes as agencies scramble to justify their strategies for achieving identified end results. The increased emphasis on governmental accountability requires program managers and executives to become more aware of how program activities bring about desired outcomes. After all, the legislative and executive mandates for increased accountability are intended, not merely to account for government expenditures, but to enable improved performance. To this end, it becomes imperative for managers to ask, not only what the desired end states or outcomes are, but also how "best" to get there. To do this, one needs logic models.

Millar *et al.* (2000) refer to The Government Performance and Results Act (GPRA) which is a law (in a series of laws) passed in the United States of America in 1993 which were designed to improve government project management. The GPRA requires government agencies to engage in project management tasks such as setting goals and measuring results. As a result of GPRA, evaluations of federal programmes were designed to meet the new accountability requirements. The language of GPRA promoted the use of logic models, and so interest in logic models in the evaluation community increased simultaneously (Behrens & Kelly, 2008:38; Scheirer & Newcomer, 2001:65).

The LM seemed to answer not only the American government's desire for accountability from its own departments, it also appealed to government as a way of checking on Non-Governmental Organisations[57] (NGOs) which were delivering many of the social programmes it had developed. Carman & Fredericks (2010:34-35) explain:

> Non-profit organizations are delivering more public services than ever before, with many coming to rely heavily on government grants and purchase-of-service contracts (Smith, 2005). Accompanying this shift has been a rise in the accountability demands from funders, with non-profit organizations being pressured to demonstrate that they are complying with contractual requirements and evaluating the work that they do (Carman, 2007; Fine, Thayer, & Coghlan, 1998; Fredericksen & London, 2000; Hoefer, 2000; Kopczynski & Pritchard, 2004; Weiner, Kirsch, & McCormack, 2002). Some funders, especially those at the federal level, the United Way, and large foundations, are requiring their non-profit grantees to engage in program evaluation and report performance information on a regular basis (Carman, 2008; Hendricks, Plantz, & Pritchard, 2008; Behrens & Kelly, 2008).

TBE was also particular appealing as an evaluation approach at the time, as there was a new-found belief in the ability of science to solve problems, and both social scientists and the public were optimistic about using new methods and theories to solve social problems. Mathison (2005:185) maintains:

> People held science in high esteem, given the contributions made by scientists in areas such as physics and chemistry to winning the war (e.g. the atomic bomb) and to improving quality of life in the decades immediately after the war (e.g. television, jet travel). During the first few decades after World War II, social scientists were highly optimistic about being able to do the same thing that physical scientists had done by transferring social science methods and theories to solving practical social problems.

The setting was right for an evaluation approach that utilised tools that simplified interventions and was very focused on the logic and/or theory behind those interventions.

[57] "NGOs are private, self-governing, voluntary, non-profit distributing organisations operating, not for commercial purposes but in the public interest, for the promotion of social welfare and development, religion, charity, education and research" (Swilling, 2002:9). NGOs are known as Non-profit organisations (or NPOs) in the USA and elsewhere. NGOs is the term used most often in South Africa.

4.3.2 Late Phase 1 (1950 - 1969) - The Early Influences

As mentioned in the introduction to this chapter, researchers from a variety of fields began experimenting with methods in order to understand cause and effect. Some of them focused on the logic underpinning processes (so that appropriate responses in terms of targeted interventions could be developed) and began to use graphics to depict this logic. Three researchers in particular experimented with graphical formats (discussed in detail in Chapter 3) and a variety of components to depict causality in their respective fields:

- Jay Forrester (worked in the fields of computing and management and is regarded as the founder of Systems Dynamics);
- Robert Gagne (an educational psychologist) and
- Robert Stake (who worked in the field of education)

Traces of the formats they used (except for Forrester's stock and flow diagrams) can be seen particularly in the flowcharts currently used for LMs. The contribution of the three researchers is summarised in Figure 4.4.

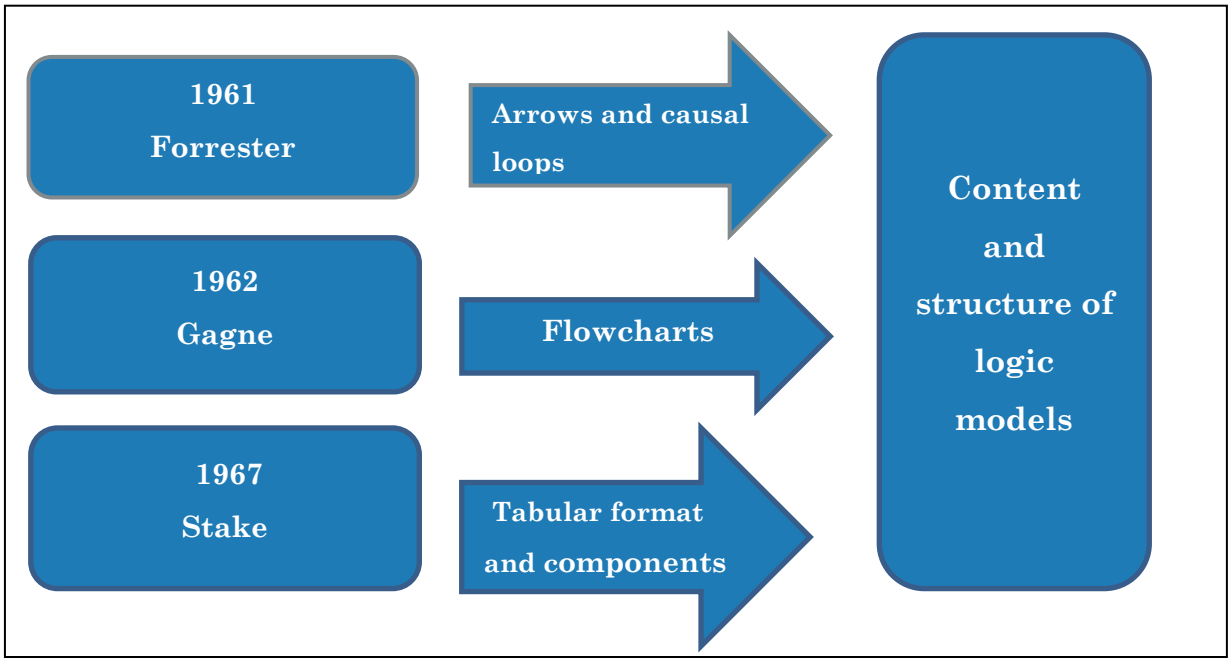

Figure 4.4: Early influences on format and content of logic models

Forrester's graphics (stock-flow diagrams and causal loop diagrams) were an attempt at developing causal maps of a system's structure and the relationship between the components of that system. Both of Forrester's graphical formats are still used currently

in the field of management[58] so they have in no way "evolved" into LMs. But Forrester's feedback loops can be seen in the more complex LMs developed – particularly those representing programme theory in the form of outcome chains. Outcome chains are the preferred graphic format for ToCs, as opposed to the linear or tabular format of many LMs that focus on the logic rather than theory of interventions. Outcome chains allow for a greater variability of pathways and are seen as less rigid than other formats.

At the same time as Forrester was attempting to represent causality in management through his causal loops and stock and flow diagrams, Robert Gagne was developing flowcharts (utilising boxes and arrows) to represent learning hierarchies in the field of education. He experimented with representations to depict various ways of achieving learning outcomes. Gagne's investigation resulted in flow charts that depicted both hierarchical (1962) and, eventually, non-hierarchical relations (1968), which was unusual for the time. His theoretical framework and graphics have been applied to the design of instruction in all domains (Gagne & Driscoll, 1988)[59]. Like Forrester's graphics, Gagne's flowcharts did not "evolve" into LMs, but the structure of Gagne's learning hierarchies can be seen in outcome chains, which have become a key format for representing programme theory. While Gargani acknowledges the contribution of Gagne to the format of LMs, he argues that Gagne's "schemes were strictly hierarchical, there was only one way to successfully move from the lowest to the highest level of the flowchart". Gargani (2003:25) states:

> What Gagne contributed to evaluation beyond extending the work of Tyler and Bloom was probably considered trivial at the time: graphical representations of hierarchies as flowcharts. These box-and-arrow representations of a program's theory first appeared in the 1960s, creating, or at least popularizing, a simplified graphical language for complex causality. However, since the causal relationships in Gagne's scheme were strictly hierarchical, there was only one way to successfully move from the lowest to the highest level of the flowchart. This rigidity ruled out explanations of program success constructed from a subset of the assumed paths in a flowchart. Furthermore, Gagne's flowcharts addressed outcomes only, so they neglected program activities intended to support outcomes as well as individual and contextual

[58] For example - Lapp & Ossimitz (2008:29-36) *Proposing a Classification of Feedback Loops in Four Types.* There is also open source software to assist in the design of causal loop diagrams – VUE at http://vue.tufts.edu/index.cfm.
[59] http://www.instructionaldesign.org/theories/conditions-learning.html Sourced 5/08/12

> factors that might influence results. Nonetheless, by structuring evaluations around hierarchies of objectives, evaluators began to routinely embed complex causal assumptions into their evaluations, emboldened by the belief that their hierarchies were strongly justified by theory.

Gargani's discussion of Gagne's contribution is not completely accurate, as Gagne's representations began depicting non-hierarchal formats in 1968[60], and Gargani's criticism that the representations only contained outcomes ignores the fact that many outcome chains that followed in the field of evaluation include only one activity (Weiss, 1972:50), and at times none at all, as Funnell and Rogers explain and show (2011:189, 246).

While Forrester and Gagne can be seen as contributors to the format of LMs, Robert Stake's Description Data Matrix (Stake, 1967:6) can be seen to contribute to the components of LMs. He developed his matrix with the purpose of providing a framework for evaluating educational courses. His matrix contained four key components commonly seen in LMs today:

- "rationale" - currently termed *purpose*
- "antecedents" – currently termed *inputs*
- "transactions" – currently termed *activities* and *outputs*
- "outcomes" - currently termed *outcomes*

Stake's evaluation framework is still used today (for example Wood, 2001:18-27) and it laid down some of the key elements of LMs. The contribution of Forrester, Gagne and Stake to possible formats and components representing the logic of processes was a valuable advancement towards the development of LMs from outside the field of evaluation. The people who would further develop the LM into the tool that would be taken up by funders and organisations to improve planning, management, implementation and accountability of programmes, would all be from the field of evaluation itself.

[60] See Figure 2.7 in Chapter 2 -: The Latent Consequences of Cumulative Learning, Indicated by Sources of Positive Transfer to the Learning of Advanced Capabilities (Gagne, 1968:1-9).

4.4 Phase 2 (1970 – 1979)

4.4.1 The Context

The expansion of social programmes and anti-poverty policies continued in the USA until about 1975[61], but there was growing public criticism of the high expenditure on the poor, and the focus began shifting from grants to employment (Danziger & Danziger, 2005:14). The war efforts (Vietnam and Cold War) were costly and those in government started questioning the efficiency and value of the huge spend on social programmes. It was this concern with expenditure and benefit that allowed programme evaluation to flourish during the 1970s. Numerous evaluations were conducted at this time for a range of reasons including:

- providing insight into which of several alternative actions tended to produce desirable results
- improving operations
- identifying needs to which programs could respond
- justifying a program's budget and
- creating support for a proposal or for continued funding of a programme.

(developed from Mathison, 2005:186).

In addition, the professionalization of evaluation had begun, and Hogan (2007:6) states:

> During the 1970's, evaluation emerged as a profession. A number of journals including Educational Evaluation and Policy Analysis, Studies in Educational Evaluation, CEDR Quarterly, Evaluation Review, New Directions for Program Evaluation, Evaluation and Program Planning, and Evaluation News were published (Stufflebeam, Madaus, & Kellaghan, 2000). Further, universities began to recognize the importance of evaluation by offering courses in evaluation methodology. Among them were the University of Illinois, Stanford University, Boston College, UCLA, University of Minnesota, and Western Michigan University (Stufflebeam et al., 2000).

The journals allowed practitioners and evaluation scholars to present and argue their views on approaches and methods which meant that these journals became an important forum for sharing innovations in the field. Importantly, universities also

[61] Richard M. Nixon (1969-1974), Gerald R. Ford (1974-1977) and James E. (Jimmy) Carter (1977-1981) were in power during this period and generally put a halt to the expansion of social programmes.

added institutional legitimacy to the field of evaluation by developing and offering courses in methodology. The time was right for the first LMs to be developed and utilised to answer critical questions of cause and effect which were plaguing both government agencies and evaluators of the time.

4.4.2 The Developers

Provus

Wholey, Hatry and Newcomer (2004:13) state that Malcolm Provus[62], a student of Ralph Tyler, developed the first logic models as part of his work on evaluation of education programmes[63]. Provus labelled his model "the discrepancy evaluation model" (1971:8) as it focused on the gaps or discrepancy between stated objectives and the results from the data measuring those objectives. Provus (1971:10-14) conceptualized a five-phase process for his evaluation model which focused on the key components of any intervention: (a) design; (b) operation[64]; (c) interim products[65]; (d) terminal products[66]; and (e) cost. Provus (1971:12-13) noted that at each of these phases in the evaluation process a comparison is made between reality and some standard or standards.

In his discussion of the initial phase, Provus describes the importance of focussing on programme design. He explains that there are usually at least three designs of the programme in existence when an evaluation begins – "one is the funding proposal, another is that held by program administrators and at least one other exists in the minds of program practitioners" (Provus, 1971:15). Provus (1971:16) goes on to explain that a revised version of the programme design is drawn up at a *design meeting*. At the meeting between the evaluator and the programme staff, the following need to be specified:

- the variables the programme seeks to change
- the criteria for entry to and exit from the programme
- the transformation/change process.

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[62] It is interesting to note that Gagne's work (1962) is referenced in the Bibliography of Provus' 1971 article.
[63] A detailed discussion of Provus's contribution and that of other evaluators is provided in more detail in Chapter 2. This chapter will focus particularly on the contribution of these evaluators in terms of graphical representations of programme theory and logic.
[64] Currently known as *implementation*.
[65] Currently known as *outputs* and *short term outcomes*.
[66] Currently known as *long term outcomes* or *impact*.

Provus is in fact describing a typical theory of change process. Table 4.2 shows the framework which Provus used to develop the revised design of a programme.

Table 4.2: Provus' Design Criteria (1971:17)

INPUTS	PROCESS	OUTPUTS
1. Variables – the things the program is attempting to change A. Student variables B. Staff variables C. Other variables	1. Variables – those activities which change inputs into desired outputs A. Student activities B. Staff activities 1. Functions and duties 2. Communication a. with staff b. with others	1. Variables – the changes that have come about A. Student variables B. Staff variables C. Other variables
2. Preconditions- the things that are prerequisite to program operation yet remain constant throughout the program • Student conditions • Staff qualifications • Administrative support • Media • Facilities • Time		Preconditions – same throughout the program
3. Criteria must be specified for each input variable and pre-condition above. The criteria specified for student variables and preconditions constitute the selection criteria of the program.	Criteria must be specified for each of the process variables	Criteria are specified on the variables to define the goals of the program. The participant is released from the program if he achieves the goal of the program or if he violates a precondition

Provus used this framework (which he calls the Pittsburgh[67] Evaluation Model) on a Standard Speech Program (1971:49) and developed what Wholey *et al.* (2004:13) regarded as the first LM. On examination of Provus' 1971 book, it is clear that Wholey *et al.* must be referring particularly to the process of unpacking the logic of the programme

[67] This seems to refer to the Board of Public Education, Pittsburgh – where Provus worked as evaluator.

as described in Table 3.2 more than the graphical format of the LM, as there is no graphic in Provus' book which represents the logic or theory of a programme.

Stufflebeam

Daniel Stufflebeam (1967), who like Provus, was an evaluator of education programmes, developed an evaluation process that focused on four key components of an intervention – context, input, processes and product - and presented these components in four boxes. This representation of a programme was still not linked to the logic or theory of the programmes. However, he, like Stake before him, used elements when representing the programme that would become fairly standard in LMs later:

- *Context* - used currently in LMs to frame the intervention. The term *frame* used here is to refer to those components that lie "outside" the internal structure or logic of the intervention. These *framing components* situate the intervention in a specific context through reference to *external factors*, *assumptions* or *conditions*. *Context* is used particularly in Realist matrices.
- *Input* - used currently in LMs to describe resources (financial, personnel and even in some instances *activities*)
- *Processes* – used currently in LMs and generally called *activities*
- *Products* - used currently in LMs (usually split into *outputs* and *outcomes*)

Weiss

While Forrester, Gagne, Stake, Provus and Stufflebeam had all contributed to the development of LMs in some way, the evaluator who nailed her colours to the mast in terms of the value and use of LMs was Carol Hirschon Weiss. Her substantial contribution to TBE generally has been discussed in Chapter 3, but this section will focus primarily on her contribution to representations linked to TBE.

Weiss is seen as promoting the academic and therefore theoretical aspect of logic modelling (Gargani, 2003:39-41). She used pathway diagrams (now more commonly known as outcomes chains) and a two column graphic in an attempt to represent the theories underlying programmes. Her pathway diagram (which she called a *process model*) for teacher home visits (Weiss, 1972:50) was a forerunner particularly of outcome chains, which allow for multiple strands of outcomes to be easily shown at once, and avoids focusing only on programme components. Weiss's pathway diagram is important

as it heralded in a group of LMs that focused on *programmatic theory*. Weiss makes the distinction between *programme theory* and *implementation theory* (1997b:45-46), which is similar to Patton's distinction (2002:162-163) discussed earlier in this section. Weiss' pathway diagram contains an *activity* and several threads or pathways which contain lower level *outcomes* until the final desired *outcome* is achieved. She used this format in a range of publications (1972:50; 1997a:504; 1998:56). The pathway diagram usually takes the following shape:

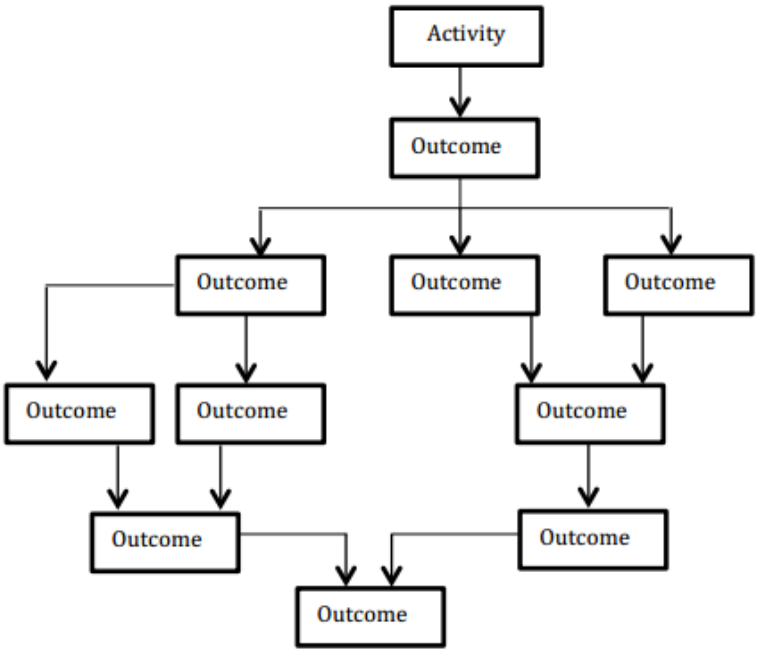


Figure 4.5: Weiss Graphic Format 1

The second format Weiss used is a graphic that distinguishes clearly between implementation and programme theory as shown in Figure 4.6.

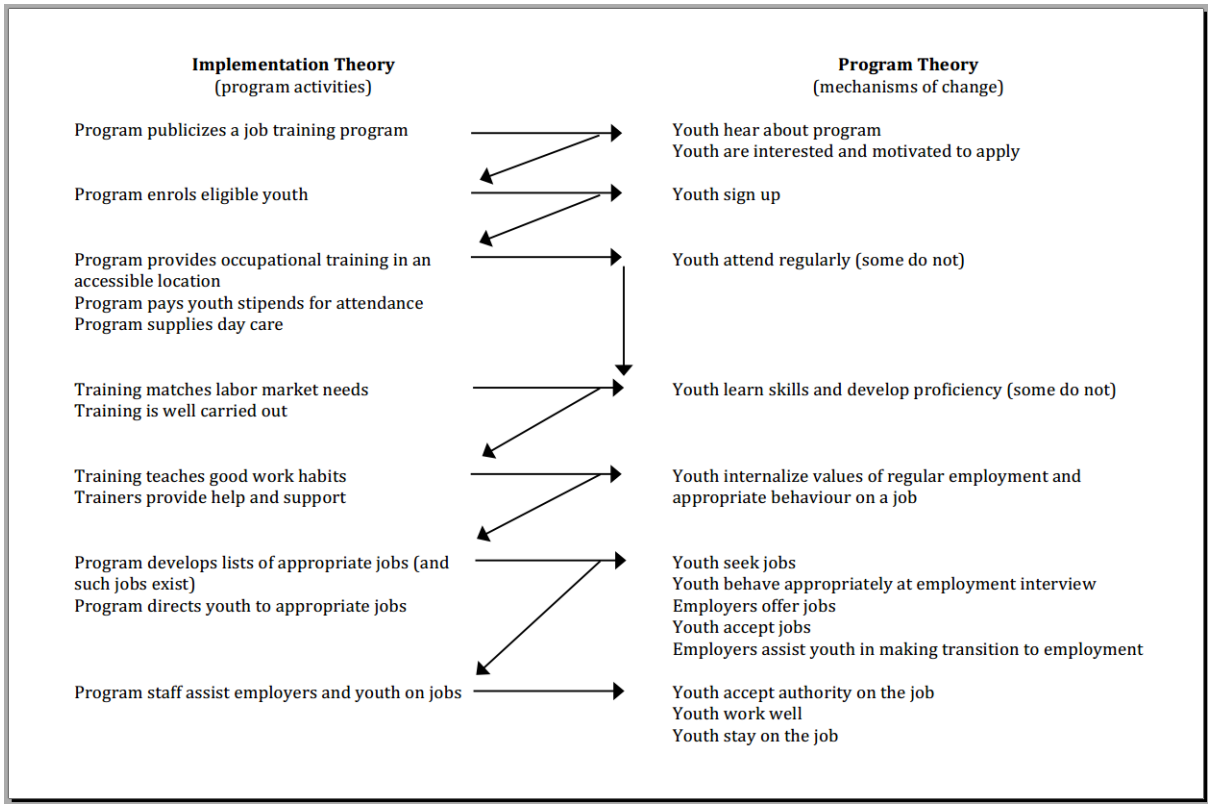


Figure 4.6: Weiss (1998:59) Graphic Format 2

This graphic shows programme activities on the left and the mechanisms for change on the right. The arrows pointing to the right in the graphic (→) indicate the effects of the activities, while the arrows pointing downwards (↓) indicate accumulating changes in the target group, which lead to the long-term change indicated in the last line of the right hand column. Funnell and Rogers (2011:18) state that Weiss's flexible pathway diagram (1972:50) which is in stark opposition to the four by four matrix of the logframe (developed just a year earlier in 1971 by Practical Concepts Incorporated) began the division of the two very different approaches to programme representation that are still in place today.

Weiss (1997b) used TBE particularly in community-based programmes and she highlighted both the immense value and challenges of both TBE and its associated tools alike. Her reflective attitude and insightful understanding of the complex issues related both to TBE and its use of representations make Weiss one of the key scholars on this topic.

Bennett

Claude Bennett was a contemporary of Weiss who had also moved away from a method-driven approach, and in 1975 developed an early "generic program theory" (Funnell & Rogers, 2011:19). This was a hierarchy that showed the causal links between the steps from inputs to outcomes. Bennett initially called this a *chain of events* (1975:7) and acknowledged that some of the links had been previously identified by Kirkpatrick and Suchman.

Bennett's hierarchy has been used particularly in agricultural extension programmes (1975:7) but has been utilised in other fields, for example, Funnell and Rogers (2001:195) show how it can be used in a community health intervention. Knowlton and Phillips (2013:119) also indicate that they use Bennett's early work as "a starting point to build models that include individual behaviour change as outcomes". Knowlton and Phillips go on to describe how they have seen evidence of Bennett's simple format in many current LMs (2013:119). This shows that Bennett's contribution has endured and remains relevant.

It is interesting to note that neither Weiss nor Bennett (or any other evaluator) had utilised the term *Logic Model* to describe the representation of programmes up until this time. University of Wisconsin (2008:1) state that " the first publication that used the term "logic model" is usually cited as *Evaluation: Promise and Performance* by Wholey (1979).

4.5 Phase 3 (1980 - 89)

4.5.1 The Context

By the end of the 1980s, demand for evaluators was so great that universities were offering graduate courses and degrees in Programme Evaluation. Government departments in the USA and elsewhere began using graphics to represent the theory underlying their programmes. An example from the Auditor General of Canada is shown in Figure 4.7.

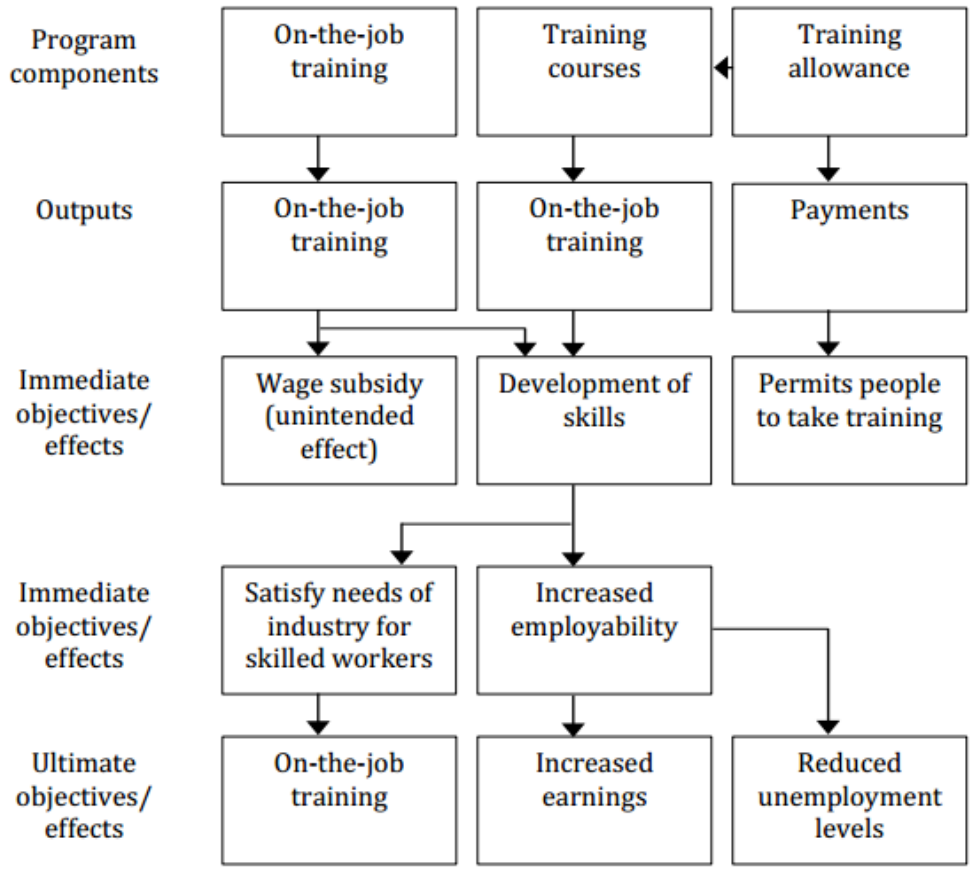


Figure 4.7: Logic model (in Weiss, 1997b:49)

The uptake of logic models had begun.

4.5.2 The Developers

Wholey

According to Weiss, programme theory (and its representations) did not become really visible until the 1980s, and even then published studies were limited (Frechtling, 2007:6). A key figure in ensuring that this changed was Joseph Wholey, who addressed the problem of the prevalence of method-driven evaluation by devising an evaluation approach called *Evaluability Assessment*. Evaluability Assessment (EA) examines a programme to determine "if" and "how" a programme should be evaluated. It does this by examining the detail of programme processes and articulating the components of the process. In other words, it depicts the programme's *Theory of Change*. The instrument that Wholey developed to carry out EA was a LM and it is much the same model used

today to represent a programme's implementation theory. It included the components of *Resources*, *Activities*, *Outputs*, and *short-, intermediate-* and *long-term Outcomes*. By incorporating LMs into EA, Wholey (1979) showed how the LM complimented and supported the USA's accountability effort - the Government Performance and Results Act (GPRA). LMs now could be utilised by funders and programme developers alike. He was well placed in the GAO (Government Accountability Office) to entrench the LM as common practice in federal agencies (Harvard Family Research Project, 1998). The GAO is an independent agency which is seen as the "congressional watchdog" as it investigates how the federal government spends taxpayer dollars. Wholey is considered responsible for the management tradition of LMs, as the models were used by the GAO to make programme staff account for their efforts (Gargani, 2003:41). LMs now took on a key role of ensuring accountability which moved beyond the initial notion of depicting programme theory.

Wholey's "Program Theory for Tennessee's Pre-Natal Programme" (Wholey, 1987:83) had the look of the LMs that would become so popular in 1990s – a flow diagram with *activities* (labelled "agency"), *intended outcomes* and *goals*. In addition to his diagrammatic representation of programme theory, Wholey also indicated that a theory could be written in a narrative form (1987:78-79).

Thus by 1987 we have all the current formats of the LM in place. By the late 1980s the LM was firmly entrenched and being used predominantly in USA government departments, international development, health, education and agricultural projects (Porteus, Sheldrick & Stewart, 2002:114).

4.6. Phase 4 (1990 - 1999)

4.6.1 The Context

Earlier, Wholey (1987) had helped to introduce logic models to programme design and evaluation planning, and, fortuitously, the demands of GPRA forced attention on the application of this tool to better describe and measure programme outcomes

across federally funded agencies and grants (Nazar, 2006:4). According to Behrens and Kelly (2008:38):

> As funders' demands shape evaluation in non-profits, funders in turn are shaped by the changing climate and circumstances surrounding public and private funding of programs and services. At the federal level, the Government Performance and Results Act of 1993 (GPRA, 1993) required government agencies to specify measurable results of their work in order to contribute to data and evaluation-based decision making by Congress, improve public confidence and accountability of government, and strengthen internal management within public agencies. As a result of GPRA, evaluations of federal programs were designed to meet the new accountability requirements. The language of GPRA promoted use of logic models, and interest in logic models on the part of the evaluation community increased correspondingly.

The 1990s heralded a new stakeholder into the context – donor agencies. One of the key factors which allowed LMs to flourish was the sudden interest of foundations and donors - such as WK Kellogg and United Way of America[68] - in these models. Practical Concepts Incorporated had developed the first LF for the government development agency, U.S. Agency for International Development (USAID) already in 1971, but there was not a great uptake of this format into the donor sector. However, it was the publication of the United Way of America's LM manual, *Measuring Program Outcomes* (1996b) that caught the interest of donor agencies at the time, and suddenly LMs were in the limelight. The publication of this manual was a key milestone. As Knowlton and Phillips (2013:6) state, "this publication promoted the structures and vocabulary of logic models" which are commonplace today. The Harvard Family Research Project (1999) followed shortly on the heels of United Way of America and published another LM manual, *Reaching Results*. It would not be long before the donor agency sector would shift from a position of LM uptake to become the driving force behind the development and use of LMs[69].

[68] United Way is described as a non-profit organisation on its website but disburses funds to its member agencies like a donor.
[69] A detailed review of 77 manuals developed to support the uptake of LMs, LFs and ToCs is presented in Chapter 4.

4.6.2 The Developers

United Way – Wholey and Weiss

The advocacy of LMs by Wholey and many other evaluators resulted in an uptake of LMs in foundations and government agencies alike. "By the 1990s, a wide variety of funding agencies began requiring or recommending that logic models accompany funding proposals" (Gargani, 2003:43). United Way of America had become concerned, like other donor agencies at the time, about the benefit of their spend and had put together an advisory "Task Force on Impact", which included experts from academia, government, foundations[70], corporations, human service organisations, and United Ways[71]. In the following quotation United Way (1996a: viii) describes this:

> This Task Force has studied and reported on the current approaches of United Ways in this area and, among other products, has developed Focusing on Program Outcomes: A Guide for United Ways, which provides the best knowledge currently available about how United Ways can move successfully to a focus on program outcomes.

"The best knowledge currently" seems to have been provided at least in part by the five academics in the group, and it is not surprising to note that two of those academics were Carol H. Weiss and Joseph Wholey (United Way, 1996a:15).

The United Way's manual described a process in which a series of questions, matrices, and network diagrams are used to link programme inputs to outcomes[72]. The manual produced by United Way was distributed for use by grantees, who now had to give greater attention to documenting inputs, outputs, and outcomes for those served (Behrens & Kelly, 2008:39).

[70] The Task force consisted of representatives from 7 other foundations (including W.K. Kellogg who would produce their own definitive manual on LMs in 2004 – eight years later).
[71] United Ways – refers to the many chapters of United Way.
[72] Gargani (2003:43) compares the United Way's processes as very similar to Bobbitt's activity analysis.

4.7 Phase 5 (2000 - 2009)

4.7.1 The Context

What follows in the next decade is really a tale of dominoes as governments first in the USA and then around the world become more demanding about accounting for funds, and proving effectiveness and performance. Pressure grew on aid donors to show impact and provide evidence that their projects were value for money. These pressures were passed on to NGOs in the form of growing demands for using tools and frameworks for evaluating work and measuring performance against donor specific frameworks (Wallace, Crowther & Shepherd, 1997:36). What followed the two LM manuals in the 1990s and the sporadic use of LMs in organisations (governmental and non-governmental) was a growing industry around both LMs and LFs. There was suddenly an escalation in

- the use of models (LMs, LFs and later ToCs)
- the development of support materials (manuals and web-based courses, blogs, audio visual materials etc.)
- capacity building for organisations faced with using the models
- the use of consultants and consulting agencies to carry out the training for donor agencies and
- the number of publications by academics who either used and advocated for logic models or criticised them.

With the sudden increase of interest and use of the models, there also came increasing resistance to and criticism of the models, particularly from the NGO sector, which was the key target for their use. Each of the growth points listed will be discussed in the following sections.

4.7.2 The Uptake [73]

In Phase 5 of LM development, it is impossible to discuss the development of LMs as a separate notion from their uptake. It is in this period that the locus of development moved from the field of evaluation into the domain of donors and government agencies almost completely, and the use of LMs can be seen in the implementation, monitoring

[73] LMs that cover either implementation theory or those that focus on programme theory were grouped together for the purpose of discussion in this chapter.

and evaluation of both government departments and the NGO sector. No longer were theorists such as Weiss, Chen and Wholey needed to convince stakeholders that TBE and its associated models are essential; LMs, LFs and ToCs proliferated without the need for any theoretical or scholarly support.

Together with the proliferation of models, a growing division within the uptake of LMs which Nazar (2006:4) describes as "two camps". In one camp, the practitioners (implementation and evaluation) were concerned with TBE and ToCs - for this group, the LM was too linear, rigid and simplistic. For the other group, the LM had made monitoring and evaluation possible on a massive scale, although it was sometimes not called evaluation, but something like "Performance Monitoring" or "Outcome Measurement" or "Result Oriented Management Accountability" (ROMA). The intuitive simplicity of the Logic Model was, in fact, the key to success for this group.

Publications on Logic models

In the course of this study, examples of LMs from publications from 1972- 2013 were examined. The models were taken from three books, thirteen manuals and eighty eight articles. Of the 138 LMs that were found, 94 (68 %) were in publications between 2000 and 2009. Figure 4.8 shows the massive increase in the models appearing in publications from 2000-2009.

Of the 138 models examined 76 (55%) were pipelines, 59 (43%) were outcome chains, two were in the form a narrative and only one was a matrix. The formats of the models examined were grouped using Funnell and Rogers (2011:242-243) four broad approaches to presenting program theory: *pipeline* (very linear in nature), *outcomes chain* (non-linear in nature), *matrices* (a table containing information about the context, mechanism and outcome (initially developed by Pawson and Tilley (1997)) and *narratives* which present the logical argument for a programme in a series of propositions.

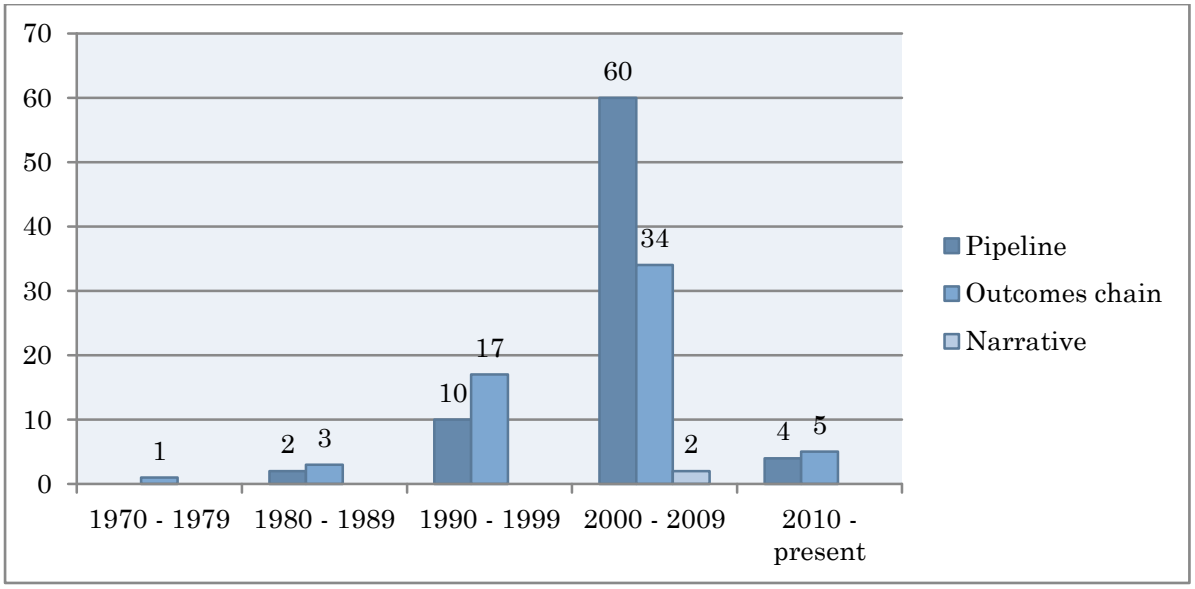


Figure 4.8: Counts of model types by decade (n = 138)

It is important to note that the presence of LMs in publications is being used here as a proxy for their use in organisations (both government and NGO), as the actual usage of models is hidden in the grey literature of project and donor reports across the world. Due to ethical considerations, evaluations reports are generally not readily accessible in the public domain. Although the publications cannot be seen as an exact mirror of usage in the field, it is interesting to note that the trends in the use of models in publications are reflected in the trends in the number of manuals developed by donor agencies, which is discussed later on in this section.

Of the 94 models in the growth period (2000-2009), 60 were pipeline models, 34 outcome chains and two were narrative in format. It is not yet clear what this decade holds for the use of models, but the figures shown in the chart are similar to those of the previous decade (i.e. 3 models per year on average). It is interesting to note that at this point there are more references to outcome chains, which may mean that there is a slight shift towards focusing on programme theory rather than on implementation, but it is perhaps too soon to tell. However, Coryn *et al.* (2011:202) note the same trend:

> In earlier conceptualizations, numerous theorists, including Weiss (1997a, 1997b, 1998) and Wholey (1979), among others, tended to favor linear models to describe program theories. In recent writings, others (e.g., Chen, 2005a, 2005b, 2005c; Rogers, 2008) have advocated for more contextualized, comprehensive, ecological program theory models...In general, these types of models are intended to integrate systems thinking in postulating program theory, taking contextual and other factors that

> sometimes influence and operate on program processes and outcomes into account. Even so, these types of theories or models also have been questioned regarding the degree to which they adequately represent complex realities and unpredictable, continuously changing, open and adaptive systems (Patton, 2010).

The huge proliferation of pipeline format LMs from 1990 -1999 not only coincided with the increase in interest and demand for simple and easy to use tools, but also reflected the different ideologies of these different agencies. If they were all in agreement about what these tools were and how to use them, one manual would have sufficed. But that was clearly not the case.

Section 2

4.8 Logical frameworks

4.8.1 Definitions of Logframe

Despite the distinctive matrix of the logframe (LF), it is regarded by some as simply another type of LM (Funnell &Rogers, 2011: 395; Roduner, Schläppi & Egli, 2008:5). Roduner *et al.* while describing the matrix (LF) as a LM, clearly distinguish the model from the actual process involved in developing the LF, which they call called the logical framework approach (LFA). Funnel and Rogers (2011:391) claim that "a logframe is a pipeline model" which is used in international development. They indicate that because of its format and limited number of components, it is difficult to use a LF to represent complicated programmes (2011:395). The LM can therefore be viewed as an umbrella term for a host of models that are closely related in purpose and function as, regardless of the type of model, it would seem that all have some overlap in their use, i.e. description, strategic planning, monitoring and evaluation and learning. However, due to the particular nature and origins of the LF its development is discussed separately from LMs.

It is important to distinguish between the logical framework (LF) – the matrix which summarises the main elements of a programme and connects them to each other – and the logical framework approach (LFA) – the overall process by which the elements that go into the matrix are formulated (Dale, 2003). SIDA (1998:i) describes the LFA in the following way:

> The logical framework approach, as the name suggests, is a methodology that promotes systematic thought about the logic of a development intervention. It promotes the formulation of clear statements of the immediate results anticipated from an intervention as well as the broader objectives to which they are expected to contribute. It requires the clarification of different levels of objectives (project results, project objectives, development objectives) and consideration of the cause and effect relationships between them. It integrates a concern with means to measure progress and achievement at all levels of objectives.

The noteworthy elements of the LF definition from SIDA is that the LF is linked to the "logic of a development intervention" which associates the LF with a particular type of intervention which is unlike LMs. The definition also associates the use of LFs to the "clarification" of objectives and "consideration of the cause and effect" which is similar to LMs. Most definitions of the LF describe it as a *matrix* (DANIDA, 1996; Australian Aid, 2002, 2005; DFID, 2003; IFAD, n.d.; Jackson, 1997; NORAD, 1999; SIDA, 1996, 1998, 2004, 2006; UNHCR, 2001; USAID, 1980; World Bank, 2004). It has also been called a *frame* (Asian Development Bank, 1997) and a *table* (BOND, 2003). Unlike LMs which have four key formats the LF has only one – tabular.

The format of the first LF developed by USAID in 1980, consisted of sixteen blocks in a matrix with seven components. The number of blocks in the frame and the number of components varied considerably after the development of this first LF. A detailed review of LF types is presented in Chapter 5 but a broad overview of some of the modifications made over the years of its development is presented in this section.

Table 4.3: Number of blocks in examples of logical frameworks (n = 38[74])

Number of blocks	Count	%
Sixteen	16	35.6%
Twenty	8	17.8%
Twelve	7	15.6%
Eighteen	2	4.4%
Twenty three	1	2.2%
Twenty four	1	2.2%
Thirty two	1	2.2%
Six	1	2.2%
Fifteen	1	2.2%
Total	**38**	**100%**

Table 4.3 shows that the most common number of blocks is 16. This follows the USAID format from 1980 but there is a fairly wide range of formats of matrices with between 12 to 32 blocks.

Figure 4.9 shows that across the 38 exemplars of LFs the most common component was *Objectively verifiable indicators* or terms similar to this related to *indicators*. This is a term used in the horizontal components of the USAID model. The least used terms from external factors (8.9%) to Performance targets (2.2%) can all be seen as elaborations of the model – that is providing more detail on the core vertical or horizontal components.

[74] This analysis of LFs refers to 38 models while the review of model types in Chapter 5 is based on a subset of 28 models. Lists of LF models can be found in Appendix 2.

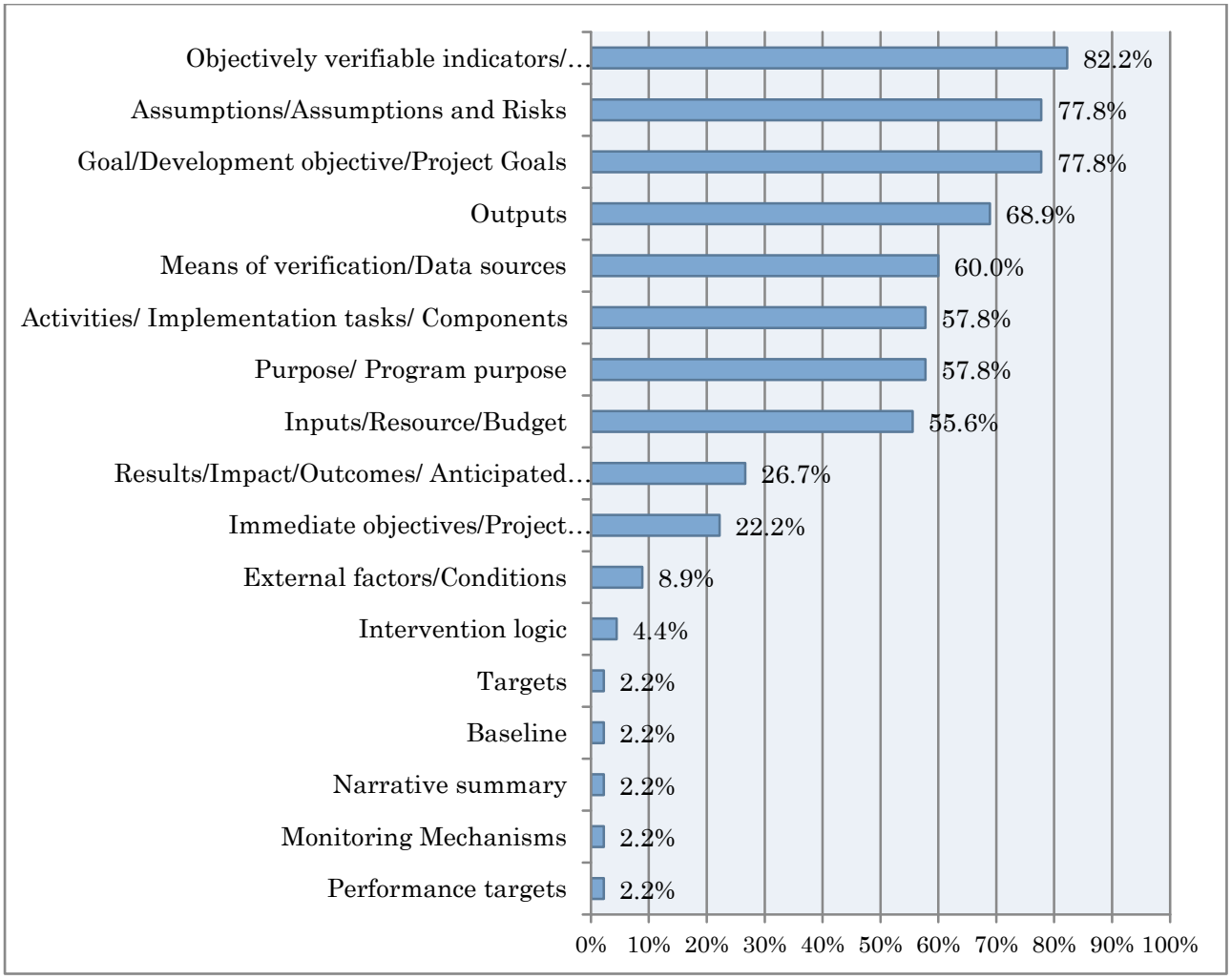


Figure 4.9: Components of logical frameworks

Figure 4.10 taken from *The Pacific Guide to Project Proposal Preparation using the Logical Framework Approach* (2013:43) provides more detail on the particular terminology of some of the developers of particular "brands" of LFs. The format of the figure is that of the USAID model but the content shows the variation of terms used for concepts by various developers.

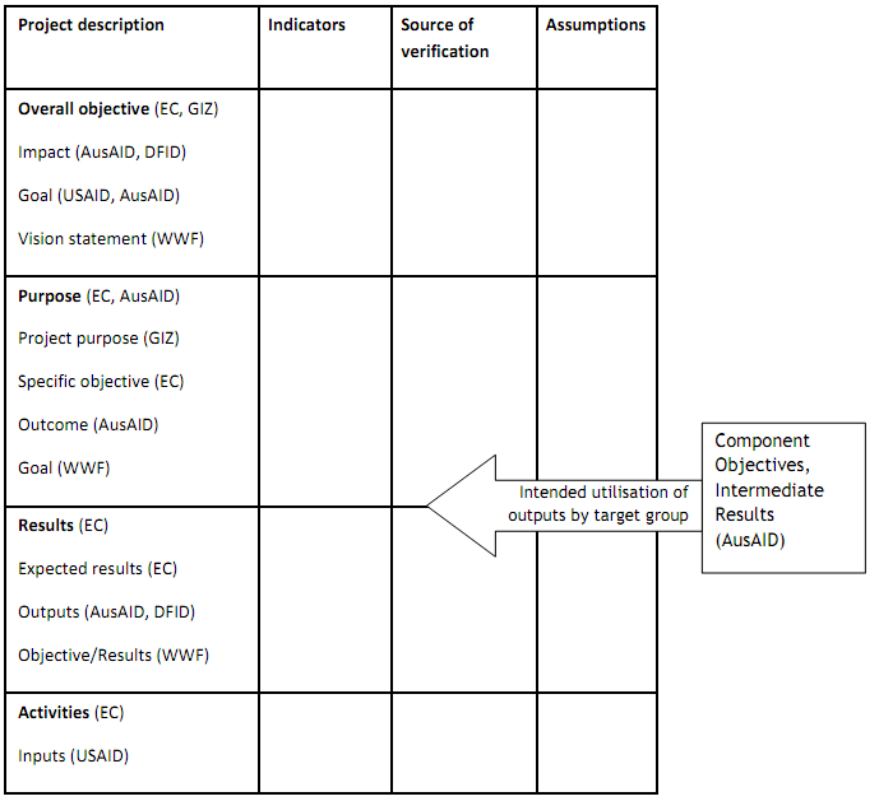


Figure 4.10: Range of LF terminology

LFs are developed usually for

- planning and managing development projects - (Aune, 2000; Australian Aid, 2002; Bakewell & Garbutt, 2005; BOND, 2003; Dale, 2003; DANIDA, 1996)
- summarising the main elements of the programme of work and connects them to each other – (Bakewell & Garbutt, 2005)
- undertaking sector analysis, project planning, and project supervision – (ADB, 1998)
- monitoring and reviewing projects during implementation – (Australian Aid, 2002)
- strengthening activity design, implementation and evaluation – (DFID, 2003).

4.8.2 The roots of LFs (1950 – 69)

It is posited in the previous sections of this chapter that the domains of education and business management had a strong influence on the development of LMs. Bakewell & Garbutt (2005:1) indicate that the LF's "origins lie in a planning approach for the US military, which was then adapted for the US space agency NASA before being adopted by USAID for development projects over thirty years ago." Despite its very different origins to the LM, both types of models have been used for planning, monitoring, evaluation and reporting. Gargani (2003:39) describes the LF in the following way:

> The matrix organizes outcomes and activities into a set of hierarchies originally designed to help funding agencies and nongovernmental organizations implement a management technique known as management by objectives. As such, it was not designed to construct and test theories, per se, but rather to support management, monitoring, and fiscal decision making. As management practices in general began merging with program evaluation in the 1980s, and logframe analysis in particular was mandated by international funding agencies, this brand of TBE became an obligatory part of the international evaluator's toolbox.

Gargani notes an important distinction between LFs and LMs – LFs were not designed to construct and test theories but rather to support project and fiscal management and monitoring. However, LFs are still associated with TBE perhaps because of their focus on "cause and effect". This description of the LF by the developers Practical Solutions Incorporated (PSI) insists that the matrix is not about sequencing but rather about the causal chain of interventions:

> The Logframe is a "cause and effect" model of project intervention. It is not a sequential model. The cause and effect logic of the simple Logframe here says, "IF we plant seeds AND assuming we receive sufficient rain, THEN crops will grow." It does not say, "first we plant seeds, second it rains, third crops will grow." Do not confuse causal thinking with sequential thinking (PSI 2004:5)

The roots of the two model types were quite different although they focussed on similar issues. Unlike the theoretical roots of LMs, LFs were not associated with researchers and evaluation scholars concerned with cause and effect but rather funding organisations, for quite different reasons. The roots of LFs lay in concerns for the management and evaluation of large-scale programmes.

The LFA was a response to three systemic issues in development projects (PCI, 1979:1):

> Project planning was too vague – it was unclear how activities led to objectives being met, and what constituted a successful project
>
> Management responsibility was unclear – the scope of the project that the project team was responsible for delivering was not clear, and neither were assumptions outside of the project's control clearly identified.
>
> Evaluation was an adversarial process – as a result of unclear objectives and project scope, there were no clear targets to assess the project against. This led to disagreements amongst stakeholders as to what constituted a successfully project.

Other factors also affected the development of LFs -

- the demand for a tool to assist service delivery and ensure accountability beginning in the United States of America and soon spreading
- the innovations in management theory, particularly management-by-objectives (participatory goal setting, choice of actions and decision making which involves measuring performance against standards)
- the beginning of the impact assessment movement, with its interest in predicting the likely environmental, social and economic consequences before the start of a project (Muspratt-Williams, 2009:30).

There was a growing demand for accountability and a planning, management, evaluation and reporting tool that could focus on impact. LFs gave government development agencies, in particular, a tool which could provide a standardised summary of projects and their logic across the agency (Australian Aid, 2002). Because of this standardisation and reduction in project information, it became the favoured tool of the large development agencies with their multiple projects in a range of sectors. Australian Aid (2002:2) states:

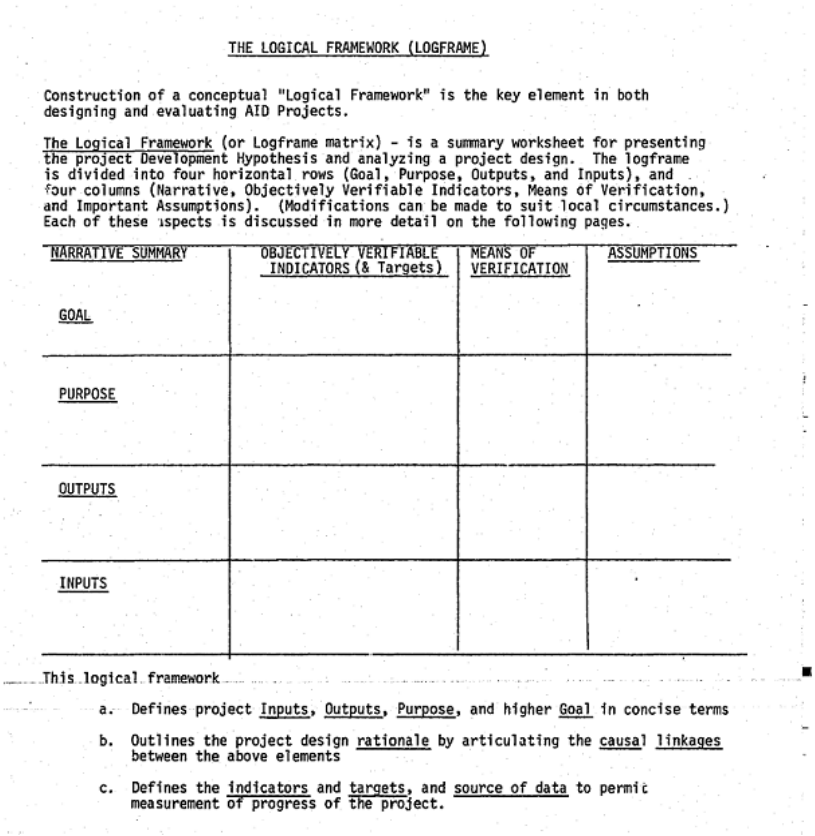
> LFA has since been adopted, and adapted as a planning and management tool by a large number of agencies involved in providing development assistance. These include the British DFID, Canada's CIDA, the OECD Expert Group on Aid Evaluation, the International Service for National Agricultural Research (ISNAR), Australia's AusAID and Germany's GTZ. AusAID has been using LFA as a formal part of its activity cycle management procedures since the mid-1980s.

4.8.3 The development of LFs

The First Generation[75] (1969-1979)

During the period 1969 to 1970 the first LF was developed for the U.S. Agency for International Development (USAID) by the consulting firm Practical Concepts for the first time, and was officially adopted by the agency in 1971. Leon Rosenberg (a consultant) first at Fry Associates and then at Practical Concepts Incorporated, led the team that produced a simple 4 x 4 matrix which has since become the project evaluation tool for many organisations dedicated to international development (Solem, 1987; den Heyer, 2001; Dearden & Kowalski, 2003; Harley, 2005; Gasper, 2001; Dale, 2003; AusAid Guidelines, 2003). The USAID model (1980:59) consisted of a matrix containing four vertical components: *Inputs-Outputs-Purpose-Goal* and three horizontal components*: Objectively Verifiable Indicators and Means of Verification.* Figure 4.11 shows the original USAID model as shown in the manual. The manual for the USAID model was comprehensive and described a systematic method to link project design and evaluation.

[75] Logframe "generations" were first described as such in Sartorius (1996). The third generation Logical Framework Approach: dynamic management for agricultural research projects. *European Journal of Agricultural Education and Extension 2*.



THE LOGICAL FRAMEWORK (LOGFRAME)

Construction of a conceptual "Logical Framework" is the key element in both designing and evaluating AID Projects.

The Logical Framework (or Logframe matrix) - is a summary worksheet for presenting the project Development Hypothesis and analyzing a project design. The logframe is divided into four horizontal rows (Goal, Purpose, Outputs, and Inputs), and four columns (Narrative, Objectively Verifiable Indicators, Means of Verification, and Important Assumptions). (Modifications can be made to suit local circumstances.) Each of these aspects is discussed in more detail on the following pages.

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS (& Targets)	MEANS OF VERIFICATION	ASSUMPTIONS
GOAL			
PURPOSE			
OUTPUTS			
INPUTS			

This logical framework

a. Defines project Inputs, Outputs, Purpose, and higher Goal in concise terms

b. Outlines the project design rationale by articulating the causal linkages between the above elements

c. Defines the indicators and targets, and source of data to permit measurement of progress of the project.

Figure 4.11: Logical Framework – USAID (1980: 59)

The manual produced by USAID in 1980 described eight possible variations in the LF system, such as additional columns for verifying assumptions and for specific quantified targets, and additional rows for intermediate outputs and subsector goals (Asian Development Bank, 1998).

According to Harley (2005:29) the LFA became an integral part of USAID project management in 1970s. In 1971, USAID trained its field staff on the Logical Framework Approach (LFA) and received a positive response but by the late 1970s USAID's training effort had lost impetus and the use of the LF declined (Sartorius, 1991).
The PCI Manual[76] (1979:2) states that the LF "was implemented in 30 AID country assistance programs in 1970 and 1971. In subsequent years the Logical Framework Approach was extended to AID's loan projects and its centrally-funded projects.

[76] Original Practical Concepts Incorporated Manual available at http://usaidsite.carana.com/sites/default/files/resources/pdfs/The-Logical-Framework-A-Managers-Guide.pdf Downloaded 20 June 2011

Canada's foreign aid agency (CIDA) tested the Logical Framework Approach in 1974 and in 1975 decided to apply it worldwide."

Gasper (2001:21) claims that the first generation logframe was far too rigid due to the pressure on the developers and observed that "the contexts of use for first-generation LFA brought major distortions. Pressures for simplification and central control in aid bureaucracies dealing with dependent recipients contributed to its operationalisation as only the project matrix format". The focus of use in this generation of LFs was on standardisation and target setting. The First Generation LF is characterised by a focus on the matrix alone with no reference to the development process or LFA.

Over time the LF has been modified in three key areas - purpose, design and process of development. Initially, its key purpose was as a tool for standardised presentation of projects and later moved to a tool for project management, monitoring and evaluation. The USAID model is the only model developed in this period.

Second Generation (1980-1989)

During the second generation of the LF, developers recognised the significance of both the content of the matrix and the processes needed to complete the matrix. By the 1980s, the German Technical Cooperation agency GTZ initiated new studies, including again Practical Concepts Incorporated (Steigerwald, 1994). Gasper (2001:6) indicates that "the outcome was ZOPP, the German acronym for objective-oriented project planning, an upgraded LFA. Remarkably, despite ZOPP's origin, some American audiences are not aware of it as a variant, indeed generation, of LFA". The 1980s also saw the development of new methods of enquiry aimed at gaining a more accurate view of benefit and context by incorporating beneficiaries in the LF development process. These methods included rapid rural appraisal (RRA), participatory action research (PRA) and participatory poverty assessments (PPA). This had an influence on the Second Generation of LFs as the LFA was now characterized by the incorporation of a detailed description of the planning method. This involved a set of "steps and phases for the development of the matrix, moving the emphasis from the development of the matrix to an explanation of the process" (Sartorius cited in Lomo-Osario & Zepeda, n.d.:15). In doing this, the scope of the LFA was broadened from a box-filling exercise to a more complex process and tool to ensure improved design, implementation and management of projects. The process also was participatory in nature, and communication aspects

were added to the process. Still, the LFA was in many organisations used as "a strict instrument and seen as a prescriptive and formal requirement" (van der Velden, 2003:2). During the late 1980s, the British aid ministry and CIDA (1985) adopted the LF while the "pprestige" and use of the matrix declined in USAID, before a new wave of popularity in the late 1990s (Gasper, 2001:6). The review only found one example of a second generation LF – from GTZ.

> ZOPP was formerly adopted in 1983 as a compulsory method and rapidly became GTZ's trademark. It was also received quite favourably by the international aid community and judging by how many donors and NGO have taken it up, GTZ is probably the most widespread 2nd generation version of LFA today. Despite this positive response, however, the appropriateness and delivery modes of the method, particularly for cross-cultural work, have attracted increasing discussion. These criticisms lead to substantial modifications and eventually to a 'downgrading' of ZOPP. (Fujita 2010: 24)

By the end of 1988, GTZ had trained all managers and staff concerned with project implementation, and also its sub-contractors, in the ZOPP method and process. ZOPP became a GTZ trademark.

Third Generation (1990-1995) and Fourth Generation (1996-1999)

Sartorius (1996) describes a Third Generation of LFs which were developed in the mid-1990s and explains that the modifications to the LFA were partly due to the use of software packages to assist with the preparation and revision of matrices. In this period, training particularly on indicators and methods of developing links from the LF to other planning methods like scheduling and budgeting were focused on. These were mainly technical refinements.

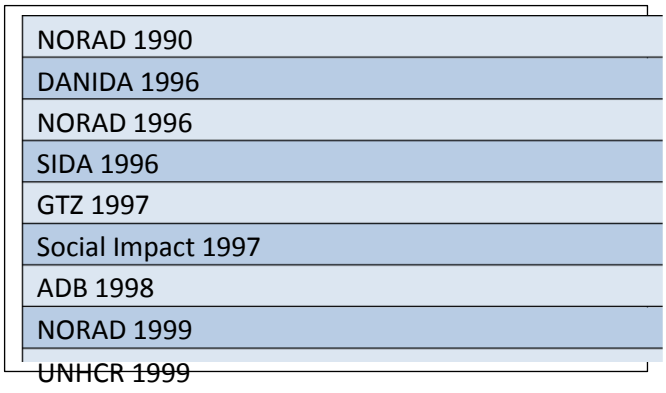


Figure 4.12: Examples of LF manuals developed during Third and Fourth generation

By the 1990s, there was a widespread uptake of the LFA by nearly all the international government development agencies (Dale, 2003). In the mid-1990s, the World Bank and

SIDA finally adopted it, "as did numerous NGOs of their own volition or because funders insisted" (Gasper, 2001:1).The LF became part of standard procedures for programme and project management and evaluation. The LFA was seen as a useful process, that when used appropriately, could be valuable for improved planning, designing, implementing and evaluating of projects. Proponents of the LF claim that it provides a structured approach to setting priorities and determining the activities and intended results of a project. Used correctly, the LF could be used for developing a project concept into a comprehensive project design. Many authors including Coleman (1987), Akroyd (1995), Eggers (1994), Cordingley (1995) and Wiggens and Shields (1995) have outlined their use and their benefits. Many government development agency manuals do the same, e.g. DANIDA (1996), NORAD (1999).

This was followed by a Fourth Generation LF where users "claim to use LFA and PCM[77] in a more flexible way, accompanied with the use of participatory methods within the project cycle. These statements are reflected in donors' guidelines and manuals" (Sartorius cited in Lomo-Osario & Zepeda, n.d.:15). Several donor agencies (GTZ, Danida, and NORAD) shaped the LFA into a more flexible tool by paying more attention to issues such as commitment, transparency, structure, participation and flexibility (van der Velden, 2003). During this period GTZ made substantial changes to its ZOPP approach as described in the extract from a manual on the approach:

> As early as 1990 hints on how to use ZOPP more efficiently and flexibly were incorporated into its organisational manual. In 1996, regulation 4211 was replaced by a guide on "Standard Procedure" … Finally, in the course of the corporate decentralisation process (1996 to 1998), GTZ's Directors General decided to deregulate all organisational project directives except those to which GTZ was bound by outside rules. Project steps can now be designed flexibly in agreement with all involved. (GTZ 1997:31)

GTZ had begun questioning "whether participatory learning approaches [were] compatible with the constraints of a management and steering system which is essentially based on the logical framework approach" (Forster cited in Gasper, 2001). At the same time, USAID and CIDA modified the LFA to include a monitoring and evaluation approach known as results-based management. It is clear that while the government development agencies may have started out using a similar format of LF,

[77] Project Cycle Management Method

over time they began branding the LFA approach with their own philosophy and strategic objectives. The LF was now interpreted differently within different philosophies of funding, development aid and philanthropy. Some of the donors were clearly only interested in delivery or outputs, some wanted to see whether their money was used effectively or wanted to ensure compliance.

Fifth Generation (2000-)

What we see in the use of LF and LFA today is a strong movement towards a Results Based Management shift. According to Local Livelihoods (2009:3):

> Results Based Management is a shift from focusing on the inputs and activities (the resources and procedures) to focusing on the outputs, outcomes, impact and the need for sustainable benefits (the results of what you do). Results are the changes occurring as an effect of a development intervention and imply that a change of behaviour by individuals, groups of people, organisations, government bodies or society has taken place.

World Bank (2004:1) ties Results-based monitoring and evaluation (RBM&E) to public management and states that it "can be used to help policymakers and decision makers track progress and demonstrate the impact of a given project, program, or policy".

Interestingly enough the logframe is often the model of choice for RBME. Local Livelihoods (2009:5) explains:

> This approach uses the Logical Framework as the basis for the project design, and establishes the quantifiable monitoring indicators against the objectives and measures the qualitative results against assumptions, risks and stakeholders.

Some donors have abandoned traditional LFs and use results chains instead, while others continue using the LFA with a RBM focus (Lomo-Osario & Zepeda, n.d.:15). However, the LF is still currently widely used and the model most frequently used by South African NGOs surveyed for this study (discussed in more detail in Chapter 6). SIDA commissioned a study in 2005 to examine the use of LFs and found that while

NGOs struggle with the demands that the LFA requires, they are unsure about rejecting it completely:

> It is clear that there is both considerable disquiet among INGOs about the central place of the LFA in development programming and a similar disquiet about the prospect of abandoning it. Development organisations are torn between increasing levels of stakeholder participation and accountability and ever greater requirements to demonstrate that they have performed according to expectations and to provide evidence of impact. The LFA, while deeply flawed, seems to provide some middle ground, as it is both a component of results based management and also allows scope for intensive stakeholder participation, at least at the planning stage. Garbutt and Bakewell (2005:18)

Currently the demand on NGOs and government organisations alike to develop LFs remains in place and often they simply do not have the capacity to respond. The following section examines various kinds of support developed by a range of organisations to support the development of both LMs and LFs.

Section 3

4.8.4 The development of support materials

Manuals

As one would expect, the surge in use of models in publications (written by practitioners and evaluators alike) was mirrored in the development of manuals to support the use of these models. Figure 4.10 is a composite of LF, LM and ToC manual development and shows a similar pattern to that of Figure 4.9 with a spike in manual development for LM and LF manuals from 2000-2009. Of the 77 manuals examined for this study, 37 (48%) were developed between 2000 and 2009.

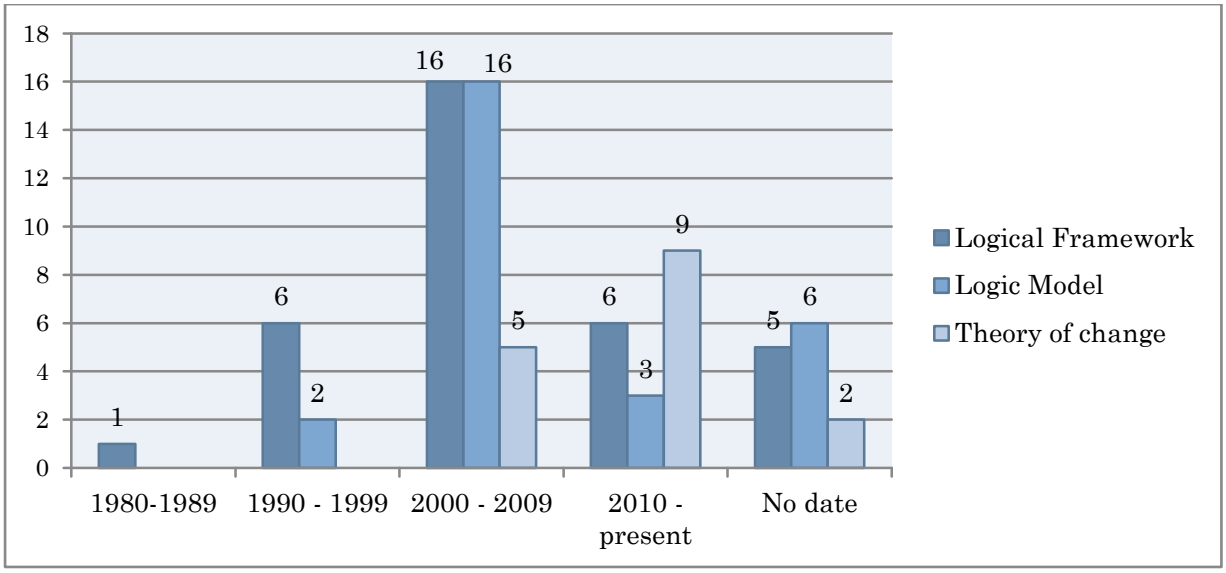


Figure 4.13: Counts of manuals by type and decade (n = 77)

There were 34 LF, 27 LM and 16 ToC manuals developed over a period of 30 years. As with the trend in the publications on model usage, there is a slight upward trend in the development of ToC manuals in the last few years. Figure 4.13 shows that there are more manuals supporting the development of LFs than LMs and ToCs. Government development agencies like SIDA, NORAD and consultancies are mostly responsible for the development of LF manuals, while universities and research units are responsible for the development of LM manuals. ToC manuals have been developed mainly by consultancies and NGOs, which reveals an interesting shift in power. Figure 4.14 shows the spread of types of organisations responsible for the three types of manuals.

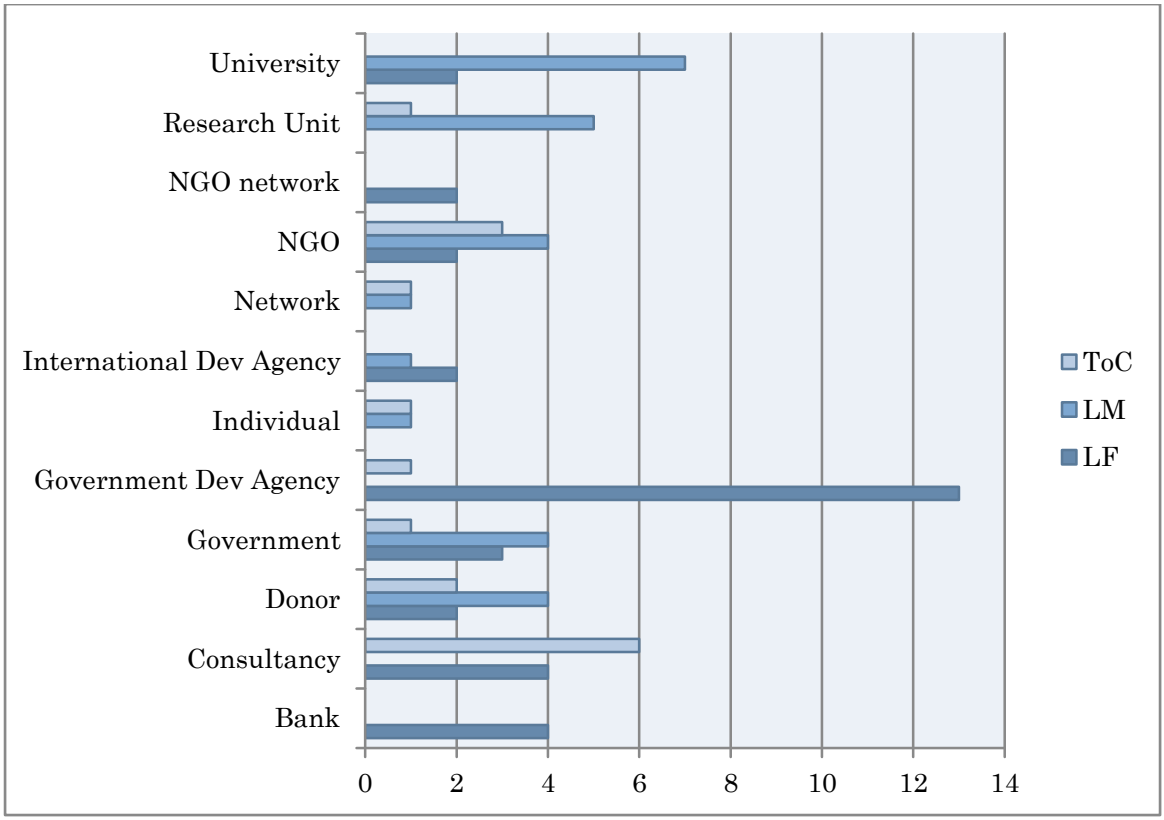


Figure 4.14: Organisations responsible for manual development

Figure 4.14 clearly shows the role of government development agencies, banks and consultancies in the development of LF manuals. LM manuals have more academic support and LM manuals are produced by universities and research units mainly. ToC manuals are being produced by consultancies and NGOs. Table 4.4 provides an example of each of the twelve types of organisations identified from the review of manuals.

Table 4.4: Examples of types of organisations responsible for manual development

Type	Example from data
University	University of Purdue
Research Unit	Wilder Research
NGO network	BOND
NGO	Healthy Teen Network
Network	International Network on Strategic Philanthropy
International Development Agency	EU Commission
Individual	M Goodstadt
Government Development Agency	SIDA
Government	Government of Ethiopia
Donor	WK Kellogg Foundation
Consultancy	Keystone
Bank	World Bank

Figure 4.15 shows that across all types of manuals, government development agencies are responsible for contributing the most publications (18%) - double the amount of manuals developed by donors who are not linked to government (9.1%). Together, the two types of donors produce 27.3%, while consultancies, universities and NGOs as a group are producing 36.4% - a substantial amount more than the donors, who are generally seen as the drivers of the models today. Manual production and LM support generally has become a lucrative industry – this could explain the shift in development of manuals from donors to consultancies, universities and NGOs.

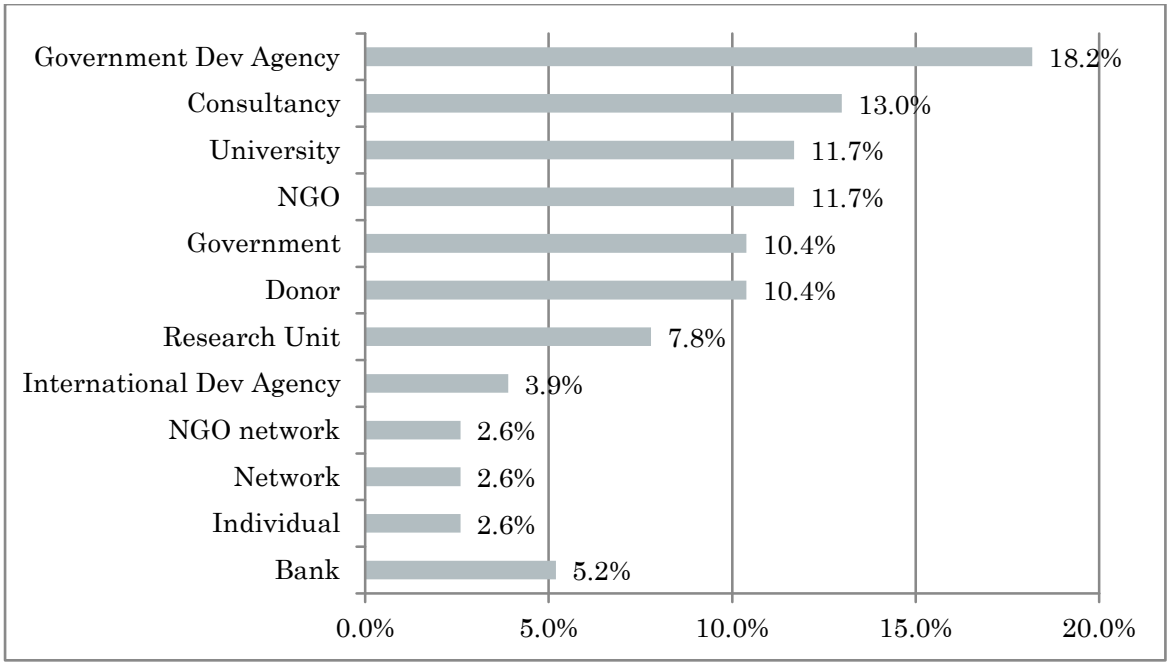


Figure 4.15: All manuals by type of organisation

Tables 4.5, 4.6 and 4.7 list the organisations and individuals responsible for the development of LM, ToC and LF manuals specifically.

Table 4.5: Logic Model Manuals

Date	Source	Title of Manual
1996	United Way	Focusing on program outcomes: a summary guide
1999	Harvard Family Research Project	Reaching Results
2000	Children, Youth and Families Education and Research Network	Using Logic Models to Evaluate Parenting Skills Programs: A "How-to" Guide
2000	University of Purdue	Utilizing the logic model for programme design and evaluation
2001	The Health Communication Unit, University of Toronto	Logic Models Workbook
2003	University of Wisconsin Extension	Enhancing Program Performance with Logic Models
2003	Centre for Disease Control and Prevention	A Guide on Logic model development for CDC's Prevention Research Centers
2004	WK Kellogg Foundation	Logic Model Development Guide

Date	Source	Title of Manual
2005	Goodstadt	The Use of Logic Models in Health Promotion Practice
2006	Flex	Creating Logic Models Toolkit
2007	Medical Reserve Corps	Training Guide: Logic Models
2008	Healthy Teen Network	A BDI Logic Model for Working with Young Families Resource Kit
2008	Trinity College, Dublin	Public Health Nutrition intervention management
2008	United Way	Logic Model Handbook
2008	University of Wisconsin	Developing a Logic Model: Teaching and Training Guide
2009	Harvard Research Project	How to develop a logic model for district wide family engagement strategies
2009	UNESCO	A Guide for Evaluating Community based projects
2009	Wilder Research	Program Theory and Logic Models
2010	DFID (Department for Transport UK)	Logic mapping: hints and tips
2011	CES (Charities Evaluation service)	Building a work Related Logic Model
2012	HealthCare Georgia Foundation	The Logic Behind Logic Models: A Brief Guide
N.D.	ESS (Evaluation Support Scotland)	Developing a Logic Model
N.D.	Harvard Family Research	Learning from Logic Models in Out-of School Time
N.D.	University of Idaho	The Logic Model for Program Planning and Evaluation
N.D.	Innovation Network	Logic Model Workbook
N.D.	Medical Reserve Corps	Training Guide #2: Logic Models
N.D.	The Finance Project	The Youth Guide to Developing Logic Models

The first LM manual was developed by United Way (1996). The University of Purdue was the first academic institution to develop a manual in 2000 but it was the University

of Wisconsin's manual in 2003 that would have the greater influence on the format and content of LMs[78]. It is interesting to note that United Way, Harvard Family Research Project and the University of Wisconsin modified their "brand" of the LM and developed a second manual to support the newer version. Harvard Family Research Project supplies a range of short publications which comment on various aspects of LMs.

Table 4.6: Theory of Change manuals

Date	Source	Title of manual
2004	Casey Foundation	Theory of change: A practical tool for Action, results and learning
2005	INSP (International Network on Strategic Philanthropy)	Theory of Change Tool Manual
2006	Grant Craft	Mapping change Using a Theory of Change to Guide Planning and Evaluation
2008	Keystone	Developing a theory of change
2009	AAPIP	Chronicles of Change
2010	USAID	Theories of change and indicator development in conflict management and mitigation
2011	CES Charities Evaluation service)	Making connections Using a theory of change to develop planning and evaluation
2011	Retolaza	A thinking and action approach to navigate in the complexity of social change processes
2012	ActKnowledge	Theory of Change Basics
2012	CARE	Guidance for designing, monitoring and evaluating peace building projects: using theories of change
2012	INTRAC (International NGO training and Research Centre)	Theory of change: what's it all about?
2012	NPC (New Philanthropy Capital)	Theory of Change the beginning of making a difference
2012	Treasury Board of Canada	Theory-Based Approaches to Evaluation: Concepts and Practices
2013	ActKnowledge	Theory Of Change Technical papers
N.D.	Aspen Institute	The Community Builder's Approach to Theory of Change
N.D.	ESPA (Ecosystem services for Poverty Alleviation)	ESPA guide to working with Theory of Change for research projects

[78] This is discussed in greater detail in Chapter 5 of this study.

Only a small number of ToC manuals were found during the review of literature. Whilst some of the LM manuals included short discussions on programme theory, these manuals have programme theory at their core. The most noticeable element of the list of manuals is the late start date for the development of the manuals (2004). Another noteworthy element is that USAID (the developers of the first LF manual) brought out a manual focussing on programme theory in 2010.

Table 4.7 shows the development of LF manuals from 1980 to the present.

Table 4.7: Logframe manuals

Date	Source	Title of Manual
1980	USAID	Design and Evaluation of Aid-Assisted Projects
1996	DANIDA	Logical Framework Approach: A Flexible Tool for Participatory Development
1996	SIDA	Guidelines for the Application of LFA in the Project Cycle
1997	Bill Jackson	Designing Projects and Project Evaluations Using The Logical Framework Approach
1998	ADB	Logical Framework Manual
1998	SIDA	Mainstreaming Gender Equality into the use of the Logical Framework Approach
1999	NORAD	Logical Framework Approach (LFA): Handbook for objectives-oriented planning 4th ed.
2000	PSI	PSI Logframe Handbook: The Logical Framework Approach to Social Marketing Design and Management
2002	Australian Aid	The Logical Framework Approach
2003	BOND	Logical Framework Analysis
2003	DFID	Tools for Development: A Handbook for those engaged in development activity
2004	EU Commission	Project Cycle Management Guidelines
2004	PPD	The Logical Framework Approach: Step-by-Step Guidelines to Objective-Orientated Project Design
2004	SIDA	Logical Framework Approach Guide
2004	World Bank	Ten Steps to a Result-Based Monitoring and Evaluation System
2005	Australian Aid	The Logical Framework Approach

Date	Source	Title of Manual
2005	CIDT University of Wolverhampton	An Introduction to Multi-Agency Planning Using the Logical Framework Approach
2005	World Bank	LogFrame Handbook
2006	SIDA	Logical Framework Approach - with an appreciative approach
2007	ADB	Guidelines for Preparing a Design and Monitoring Framework
2007	Netherlands Leprosy	Guidelines for logical framework planning workshops
2009	DFID	Guidance on using the revised Logical Framework
2009	Local Livelihoods	Project Cycle Management Toolkit
2010	BOND	The Logical Framework Approach
2011	DFID	Guidance on using the revised Logical Framework
2011	Fundsforngos.org	Developing a Logical Framework
2011	Govt. of Ethiopia	Introduction to Monitoring and Evaluation Using the Logical Framework Approach
2011	Govt. of Serbia	Guide to the Logical Framework Approach
2013	Pacific Research and Evaluation Associates	The Pacific Guide to Project Proposal Preparation Using The Logical Framework Approach
N.D.	CIDT: University of Wolverhampton	A Guide for Developing a Logical Framework
N.D.	GB Equal Support Unit	A Project Cycle Management and Logical Framework Toolkit – A practical guide for Equal Development Partnerships
N.D.	Govt. of Serbia: Ministry of Finance	Guide to the Logical Framework Approach: a key tool to project cycle management
N.D.	IFAD	Linking Project Design, Planning and M&E
N.D.	PARC	Evaluation Series: No.1 The Logical Framework

The first LF manual was developed by USAID in 1980. This model and manual had a lasting impact on all LFs. Chapter 5 of this thesis shows the extent of the impact of both the format and content of this original model and all other LF models that followed. What is noteworthy about this list of organisations responsible for the development of the LF manuals is the presence of banks, governments (and government departments) and government development agencies. These categories of organisations are not linked to the development of LM and ToC manuals at all.

The manuals shown in the three lists above are substantial in nature. Table 4.8 shows that LF manuals are generally longer than both ToC and LM. All model types have manuals with a wide range of page numbers.

Table 4.8: Number of pages in manuals by model type

Model type	Average of No. of pages	Min of No. of pages	Max of No. of pages
Logical Framework	69	8	268
Logic Model	36	4	212
Theory of Change	43	8	100
All models	**52**	**4**	**268**

The average length of the manuals indicates that the modelling process if done properly is fairly complex, so it is not surprising that other forms of support have been developed in addition to the manuals discussed in this section. NGOs do not have the required capacity to develop the models or collect the data required to report against them, as outlined by Carman and Fredericks (2010:84-85):

> Non-profit organizations are delivering more public services than ever before, with many coming to rely heavily on government grants and purchase-of-service contracts (Smith, 2005)… Some funders, especially those at the federal level, the United Way, and large foundations, are requiring their non-profit grantees to engage in program evaluation and report performance information on a regular basis (Carman & Fredericks, 2008; Hendricks et al., 2008; Behrens & Kelly, 2008). Yet, as Newcomer (2004) explains, the capacity of non-profit managers to respond to these requirements has not kept pace with the increasing demand.

The next section of this chapter looks at the online support available for those organisations which need to develop models for planning, monitoring, evaluation and reporting.

4.9 Online support for models

During the course of the literature review conducted for this study, 43 sites which offered online support for those requiring assistance with developing LMs, ToCs and LFs were found. The support for models online differed widely and included courses, model design software, blogs, forums, audio and visual media, newsletters and webinars. An overview of these websites is shown in Table 4.9.

Table 4.9: Organisations and forums offering on-line courses and software support for models (n=43)

Organisation/Individual	Source
Action Evaluation Collaborative	http://actionevaluation.org/topic/our-resources/theory-of-actiontheory-of-change/
Advocacy Program Planner	http://planning.continuousprogress.org/
American Evaluation Association	http://www.eval.org
APIAHF (Centre for Disease Control)	http://www.youtube.com/watch?v=Np1SuN3Wuj0
Australasian Evaluation Association	http://www.aes.asn.au/
Better Evaluation	http://betterevaluation.org/
C Walters	http://www.youtube.com/watch?v=UhxTttNZ9_E
Canadian Evaluation Association	http://www.evaluationcanada.ca/
Center for Theory of Change	http://www.theoryofchange.org/
Centre for Philanthropy and Community Service	http://www.youtube.com/watch?v=Ti7MTgsDDyg
Child Welfare Information Gateway	www.childwelfare.gov/management/effectiveness/logic_model.cfm
Cyfernet	https://cyfernetsearch.org/
David Hunter	https://www.youtube.com/watch?v=I7s1B0OT4N4
DG Murray Trust	http://www.youtube.com/watch?v=Vwl5KYlXxas

Organisation/Individual	Source
DG Murray Trust	https://www.youtube.com/watch?v=slrVEv-mpTU
DoView	http://www.doview.com/
European Evaluation Association	http://www.europeanevaluation.org/
Evaluation Toolkit	http://toolkit.pellinstitute.org/
FRIENDS Evaluation Toolkit	http://friendsnrc.org/evaluation-toolkit
Grant Prose Inc	www.youtube.com/watch?v=OvaQZRWVVUQ
Innovation Network	http://www.innonet.org/?section_id=4&content_id=16
James Wolff Monita Baba Djara	http://www.youtube.com/watch?v=rAAL607LMmU
Logframer	http://www.logframer.eu,
Matt Cowell	http://www.youtube.com/watch?v=jy9W4vckECY
Methodist Health Care Ministries	http://www.youtube.com/watch?v=Jup9bQeEvHE
Michael Brand	http://www.youtube.com/watch?v=JFYQoHvNLQQ
NeighborWorks America	http://www.nw.org/network/neighborworksProgs/successmeasures/smds.asp
Patricia Rogers	http://www.youtube.com/watch?v=VChVgnrbpMQ
Paul Duignan	http://www.youtube.com/watch?v=bZkwDSr__Us
ReCAPP	http://recapp.etr.org/recapp/documents/logicmodelcourse/index.htm
SAMEA	http://www.samea.org.za
Shared Action	http://www.youtube.com/watch?v=AWXzPknL1cA
Smart Toolkit	http://www.smarttoolkit.net/
Steps Toolkit	http://www.stepstoolkit.org/
TACSO	http://www.youtube.com/watch?v=YscdRdv1xXc

Organisation/Individual	Source
Temple University	http://www.youtube.com/watch?v=X1J44fkRCPE
Terry Schmidt	http://www.youtube.com/watch?v=JRQLraBIJ6w
Third Sector	http://www.youtube.com/watch?v=4F9D_dwqlaU
Third Sector	https://www.youtube.com/watch?v=MKJqvzLuw44
University of Dartington	http://www.youtube.com/watch?v=csFTQvu6ZTo
University of Wisconsin Extension	http://www.uwex.edu/ces/lmcourse/#
US Office of Personnel Management	www.youtube.com/watch?v=aLC1PYDjgFo www.youtube.com/watch?v=aLC1PYDjgFo
Useable Knowledge	http://www.usablellc.net/resources/logic-model-tutorial

Table 4.9 shows that a wide range of organisations now offer on-line support for logic modelling. Only 14 of the sites above required registration in order to access them. Figure 4.16 below provides a more detailed breakdown of types of organisations shown in Table 4.9 above.

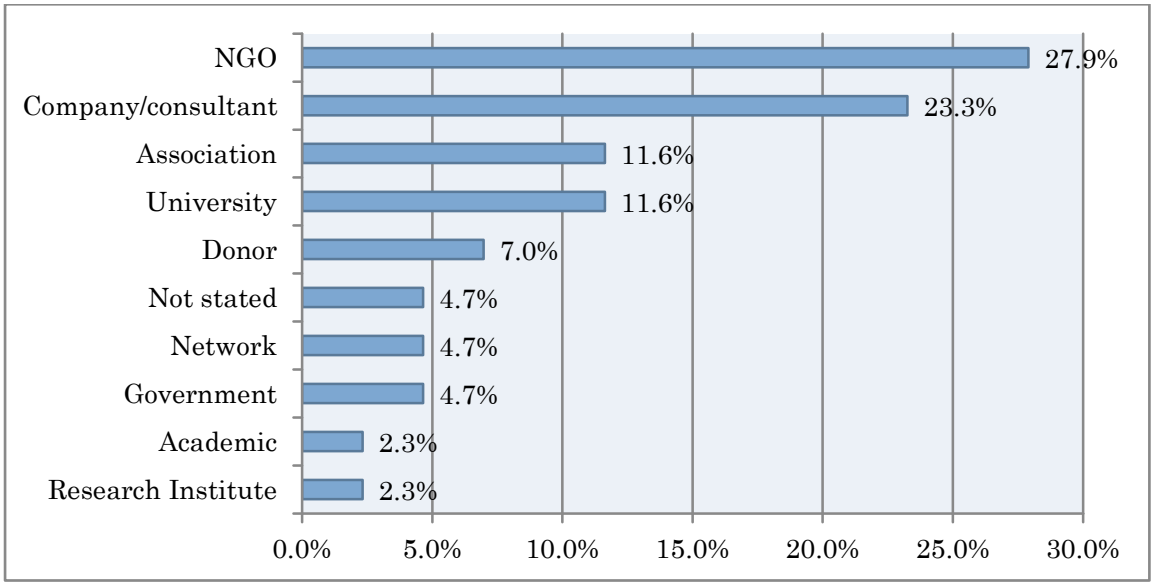


Figure 4.16: Online resources by organisation type

NGOs (12), consultants (10) and universities (5) are providing on-line support for logic modelling. It is ironic that NGOs, who are often seen to be on the receiving end of models often associated with donors, are now also involved in developing support for these models.

In a closer examination of the sites it was found that there are more sites offering LM (31) support than LFS (15) or ToC (13). It is important to note that some websites have resources for multiple types of models.

Table 4.10: Counts and percentages of online resources by model (n = 43)

Model	Count	%
Logic model	31	72.1%
Logical Framework	15	34.9%
Theory of Change	13	30.2%

Figure 4.17 below shows that most of the support is in the form of audio-visual media as in webinars and YouTube clips.

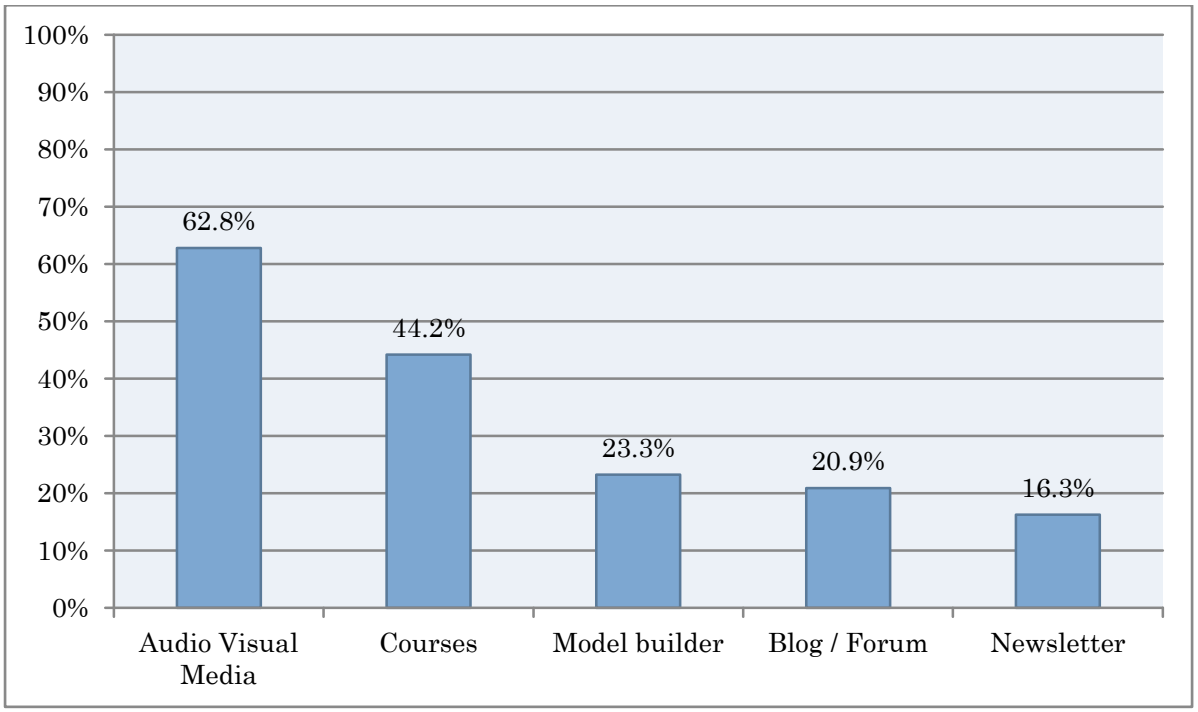


Figure 4.17: Resources available on websites (n = 43)

4.10 Conclusion

Figure 4.18 below show that there have been five key forces at play in the development of LMs and LFs. Three of these – the growth in the use of TBE, the demand for accountability and developments in management approaches affected both types of models. The other two influences were particular to the development of logic models alone.

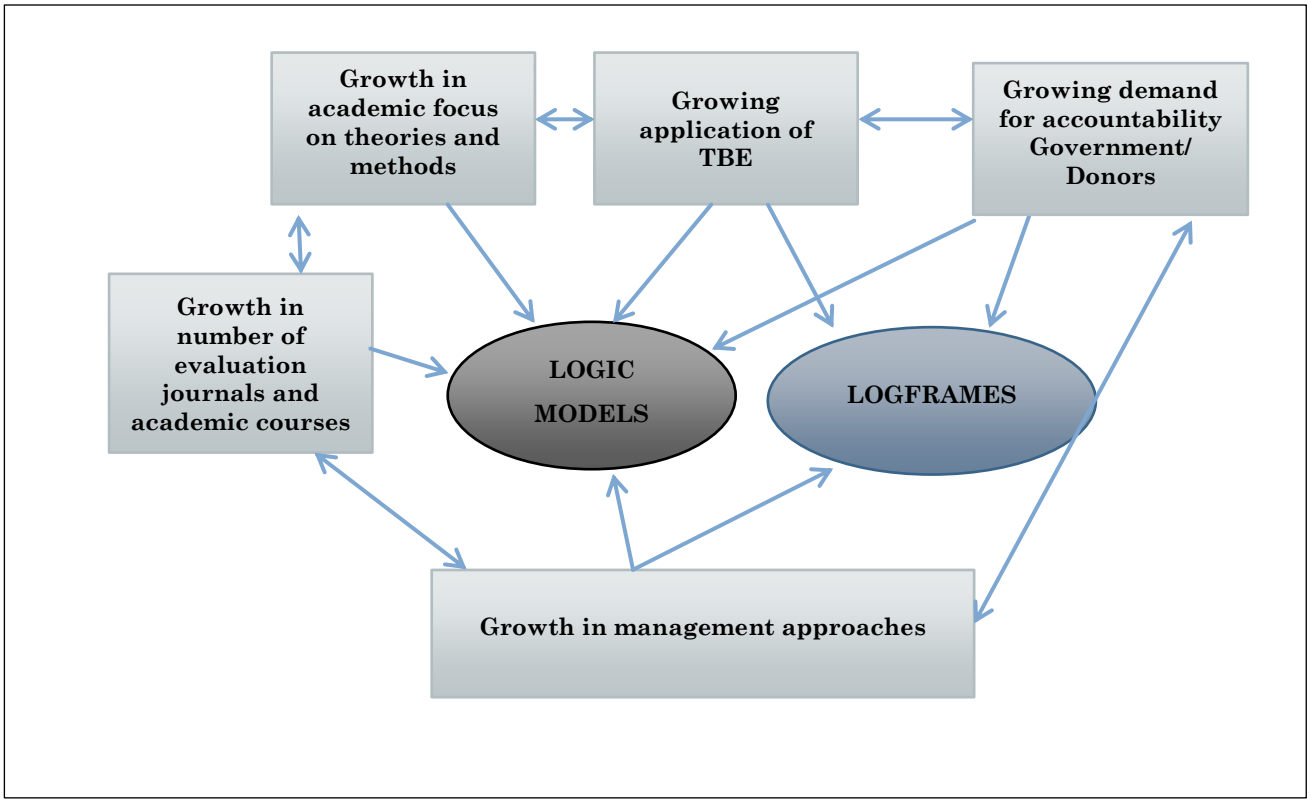


Figure 4.18: Influences on the development of logic models and logical frameworks

The following quotation from Rogers (2007:63-64) describes the changing role and function of programme theory and its associated models today

> One of the biggest changes in the use of program theory since 1997 has been its increasing incorporation in program management processes. This phenomenon had occurred earlier in some places and program areas—for example, state and federal governments in Australia had mainstreamed the use of program theory in the 1980s and 1990s (Funnell, 1990) and in the area of international development, many aid agencies had required the use of log frames, a particular type of program theory (PCI, 1979). Now many organizations and funders require proposals for projects, programs, and policies to include a logic model or program theory from the beginning in recognition of its value for planning and management, as well as for evaluation. This

> development has been a primary factor in increasing the number of evaluations that use program theory or logic models of some type and the availability of hard copy and online resources to support the use of program theory.

This description above is ironic as it is as though we have come full circle – Gargani (2003) and this researcher would argue that the seeds of TBE and logic models were embedded in the ideas of Frederick Winslow Taylor's Scientific Management in 1911. It is as though the field of evaluation, fleshed out the concept of TBE experimented with a range of models and then has returned the tools to the place of the origin. The fields of management and evaluation are forever linked, as the more uptake there is of these models into management of programmes and projects, the greater the demand on the evaluation sector to use these models as a key element of a theory-based approach.

CHAPTER 5: A REVIEW OF LOGIC MODELS AND LOGFRAMES

5.1 Introduction

Logic models (LMs) and logframes (LFs) are "representations" of the logical structure of interventions. As "models" they are more or less accurate reconstructions of the essential logic of interventions. As is the case with any model in science, there is usually not one true or correct representation of the underlying reality that it attempts to capture. In fact, constructivists would argue that all models are constructions of multiple realities. Social interventions range from being very simple to complicated, to complex. Consequently, models which represent a wide range of complexity of interventions would display a similarly wide range of representations. If one adds to this the fact that the different organisations and agencies who have contributed to the range of available LMs and LFs also have their own interests and stakeholders in mind when developing their specific models, it is even more understandable that we end up with a wide array of seemingly disparate and incommensurable models and frameworks.

The aim of my analysis – which underpins this chapter – was to conduct a systematic review and analysis of a large sample of LMs (120) and LFs (29) in order to bring some order and clarity to a diverse collection of models. The chapter reports on the development of a typology which is aimed at reducing the wide range of nearly 150 examples of LMs and LFs to a more manageable and comprehensible set of main and subsidiary types.[79]

The chapter is divided into three sections. Section 1 examines LMs, while LFs are the focus of Section 2. Section 3 is a discussion of the findings from both sections.

[79] A complete list of models can be found in Appendix 6.

5.2 Section 1: Logic Models

In Chapter 4 the distinction between ToCs and LMs were discussed with specific reference to Michael Patton (2002:162-163) who describes why the terms logic model (LM) and theory of change (ToC) should not be used interchangeably. Patton makes it clear that a LM's only function is to show a "reasonable, defensible and sequential order" of programme components. This is different to a ToC, which "bears the burden of specifying and explaining assumed, hypothesized, or tested causal links". Astbury and Leeuw (2010:365) blame the interchangeable use of terms such as LM and ToC for the current confusion in evaluation literature and practice, but indicate that "there appears to be growing recognition that they actually serve different functions" (Chen, 2005a; Leeuw, 2003; Rogers, 2007; Scheirer, 1987; Weiss, 1997a). When reviewing models in order to develop this typology, the interchangeable use of terms in articles and manuals made it difficult to decide what to include under the label "logic model" as models were labelled in a range of ways. The functions of the models i.e. whether they are used to describe logic or theory is not used as a criteria in the typology, so if a graphic was labelled "logic model", "programme logic" or "programme theory" it was included in the typology. Those models which dealt with theory are to be found grouped mainly in Types 9 and 10.

There are considerable variations in LMs which can be grouped into seven [80] key categories:

1. Shape or format – models can be flowcharts, tabular, narrative or have geometric shapes
2. Terminology –components can be called *goals* or *overall objective* and mean the same thing
3. Definitions of components – these vary from model to model e.g. *outputs* may in some cases include *activities* whilst in others not
4. Number of components included – these vary from no labelled components at all to eight components
5. Display features – these can include arrows, connecting lines, blocks, feedback loops and colour

[80] Developed from Wyatt Knowlton and Phillips (2013: 88-90) and Funnel and Rogers (2011:252-259)

6. Direction of flow – this can be left to right, top to bottom, bottom to top or even circular
7. Level of detail – some models have very little detail while others have multiple components, strands and feedback loops

The variation in the format of models is often due to the differences in intended purpose, the nature of the organisation for which the model is developed, and the level of complexity of the programme or project that is depicted.

5.2.1 Typology of models

In this section, a typology of LMs is presented that is based on the United Way model (1996a:vii) as the paradigm case. The United Way model is defined as the "paradigm case' as it is generally recognised as one of the earliest and most widely used LMs:

> In 1996, United Way of America (UWA) developed and began disseminating the most widely used approach to program outcome measurement in the non-profit sector. Today an estimated 450 local United Ways encourage approximately19 000 local agencies they fund to measure outcomes. (Hendricks, Plantz, & Pritchard, 2008:13)

It was noted in Chapter 3 that both Joseph Wholey and Carol Weiss (1996a:15) worked on the task team that developed the United Way manual that contained the paradigm case LM. The full manual *Measuring Program Outcomes: A Practical Approach for Agencies* (United Way of America, 1996b) is both detailed and substantial (consisting of 170 pages), and has been used by a large number and range of organisations:

> This manual, with lead authorship by Harry Hatry, a well-known performance measurement expert at the Urban Institute, is now in its 15th printing and has sold more than 160,000 copies. For the years 2003–2005, more than one-third of those purchasing the manual were government offices, foundations, students, consultants, or colleges and universities. Regarding the last group, nearly 100 colleges and universities purchased the manual during a recent 14-month period, and more than 50 purchased 10 or more copies, suggesting its use in a human services, social work, or public administration course. (Hendricks, Plantz, & Pritchard, 2008:22)

The quotation from Hendricks points to three key factors about the United Way manual:

- it has stood the test of time ("in its 15th printing")
- it is a commercial product ("sold")
- it is popular (it has "sold more than 160 000 copies")

These three attributes of the United Way model make it unlike other LMs. Although some of these factors can be explained away through the fact that an "estimated 450 local United Ways encourage approximately 19,000 local agencies they fund to measure outcomes" (Hendricks *et al* 2008:13), which certainly ensures a captive audience for the manual, the longevity and popularity of the United Way model cannot be ignored.

The United Way of America's approach to measuring outcomes was unusual for the time and had several distinctive features. These features described in Hendricks *et al.* (2008:16) are listed in Figure 5.1. One of the most important conceptual features was the shift of focus from outputs to outcomes. Another important practical feature of the approach was the attempt to utilise simple terminology. These two features were captured in the first version of the UWA logic model.

Conceptual features

- Focus on outcomes as measures of effectiveness
- Quantitative measurement of outcomes
- Regular, systematic measurement
- Not evaluation as traditionally defined
- Program improvement as main objective
- Local measurement necessary

Practical features

- Most steps done by in-house staff of UWs and agencies
- Avoids often-confusing terminology
- Logic model a key component
- Programs identify their own outcomes
- Supports using products of other national organizations
- Relatively long time horizon for implementation
- A round or two of measurement precedes setting targets

Figure 5.1: Features of UWA approach to measuring outcomes - Hendricks *et al.* (2008:16)

The UWA model consists of four key components: *inputs*, *activities, outputs* and *outcomes* and captures the logic of interventions as a linear flow (with no feedback loops)

from left to right. The UWA model is shown in Figure 5.2. The model has been classified as a flowchart due to the arrows between components (contained in blocks).

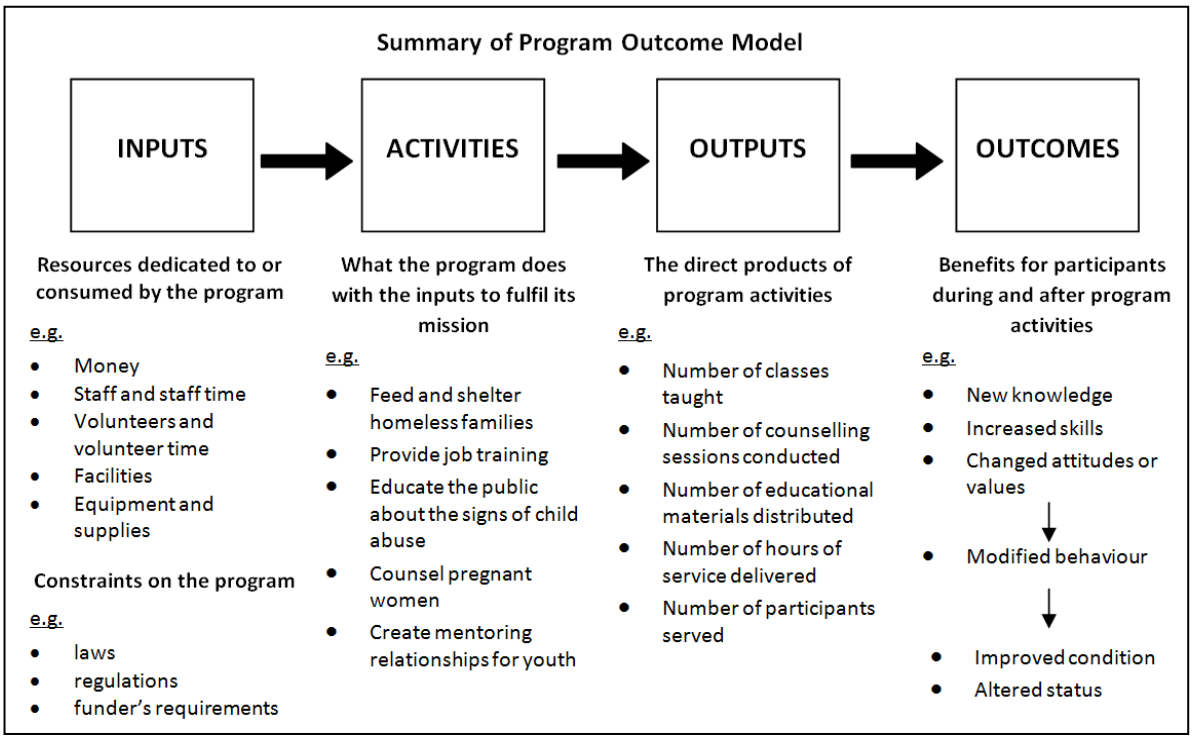


Figure 5.2: Paradigm case for Logic Models - United Way (1996a:vii)

The descriptions of the components in the model are clear. In this early version of the model, the outcomes component has not been disaggregated in terms of time (i.e. is not divided in short/medium/long term) but the arrows from one outcome to another hint at a progression. It is interesting to note that this early version of the LM already includes a "framing" of the model, as the bottom left-hand corner has a section labelled "Constraints on the program", which lies outside the structure of the model and describes external factors.

The term "framing" used here is to refer to those components that lie "outside" the internal structure or logic of the intervention. These "framing components" situate the intervention in a specific context through reference to *external factors*, *assumptions* or *conditions*. These components are not elaborations of the core components of the intervention but rather external to the intervention, enclosing or contextualising the intervention.

Using the United Way model (1996a:vii) as the standard or reference exemplar of a LM, a typology of ten types of logic models was subsequently developed. The categories in the typology differ from one another in terms of the following four criteria: (1) whether the logic model adheres to the standard number of four components; whether any change to the components constitute (2) an extension to the core causal chain of components or whether a specific component is (3) elaborated upon; and (4) whether the intervention is represented in a linear or non-linear format.

Application of these criteria resulted in the following alternatives:

1. Adherence to the number of paradigm case components
    a. 4 UWA components = standard
    b. 3 or fewer standard components = truncated
    c. 3 or fewer standard components with additional components = hybrid
    d. No labelled standard components = no designated components

2. Nature of components – whether they add to
    a. causal chain = extension
    b. some dimension of paradigm case components = elaboration

3. Linearity of the model – whether the model is
    a. direct or containing no feedback loops = linear
    b. containing feedback loops = non-linear

In the course of the review it was found that models are typically represented graphically in four formats:

1. Flowcharts
2. Tabular formats
3. Shapes (such as triangles or circles)
4. Narratives

Although the four modes of representation are not always distinct and are sometimes presented in a hybrid format, the reviewed models have been categorised as

- Flowcharts – if the text of the model is separated into blocks (outlined or not) with arrows showing the direction of the causal chain flow

- Tabular – if the text of the model is arranged in a table with columns and rows (with no arrows included)
- Shapes – if the text of the model is contained in a geometric or graphic shape
- Narrative – if the text is a set of statements linked by the phrase "if… then".

There are of course pros and cons to the various formats:

- the tabular format is limited in terms of showing direction and splitting strands.
- the flowchart format is far more flexible and allows for greater variety in terms of indicating associations between components, causal strands and feedback loops.

Exemplars of all four formats (where examples of these modes of representation were found) are discussed under each type in the typology.

The typology is presented in Table 5.1.

Table 5.1: Typology of logic models

Type	Category Name	Description
1	**Standard linear**	4 paradigm case components in a linear format
2.	**Extended linear**	4 paradigm case components with additional components which extend the causal chain in a linear format
3.	**Elaborated linear**	4 paradigm case components with additional components which provide more detail on case components in a linear format
4.	**Extended AND elaborated linear**	4 paradigm case components with additional components which provide more detail on case components and extend the causal chain in a linear format
5.	**Truncated linear**	3 or fewer paradigm case components with a linear format
6.	**Extended hybrid linear**	3 or fewer paradigm case components with additional components which extend the causal chain in a linear format
7.	**Elaborated hybrid non linear**	3 or fewer paradigm case components with additional components which provide more detail on case components in a non- linear format
8	**Extended AND elaborated hybrid linear**	3 or fewer paradigm case components with additional components which provide more detail on case components and extend the causal chain in a linear format

9.	**No designated component linear**	No paradigm case components have been identified/labelled and are presented in a linear format
10.	**No designated component non-linear**	No paradigm case components have been identified/labelled and are presented in a non-linear format

Table 5.1 lists the ten types of models found in the typology. Essentially there are four major groupings within the typology which are based on the number of paradigm case components contained in the model.

Types 1-4 all describe models which have all four paradigm case components in them. These may be an exact match for the paradigm case (Type1), or have additional components (Types 2-4). Types 2-4 differ from each other on the basis of whether they extend the casual chain (Type 2), elaborate on specific components (Type 3) or both (Type 4).

The same format applies to the next grouping of models which consists of three or fewer paradigm components Type 5 has only 3 core elements in them and Types 6-8 have core elements but then have additional components which extend or elaborate on the model.

The last two types (Types 9 and 10) do not have any labelled paradigm components in them and are represented as either linear (Type 9) or non-linear (Type 10).

The spread of the 120 models across the ten types of models is shown in Figure 5.3.

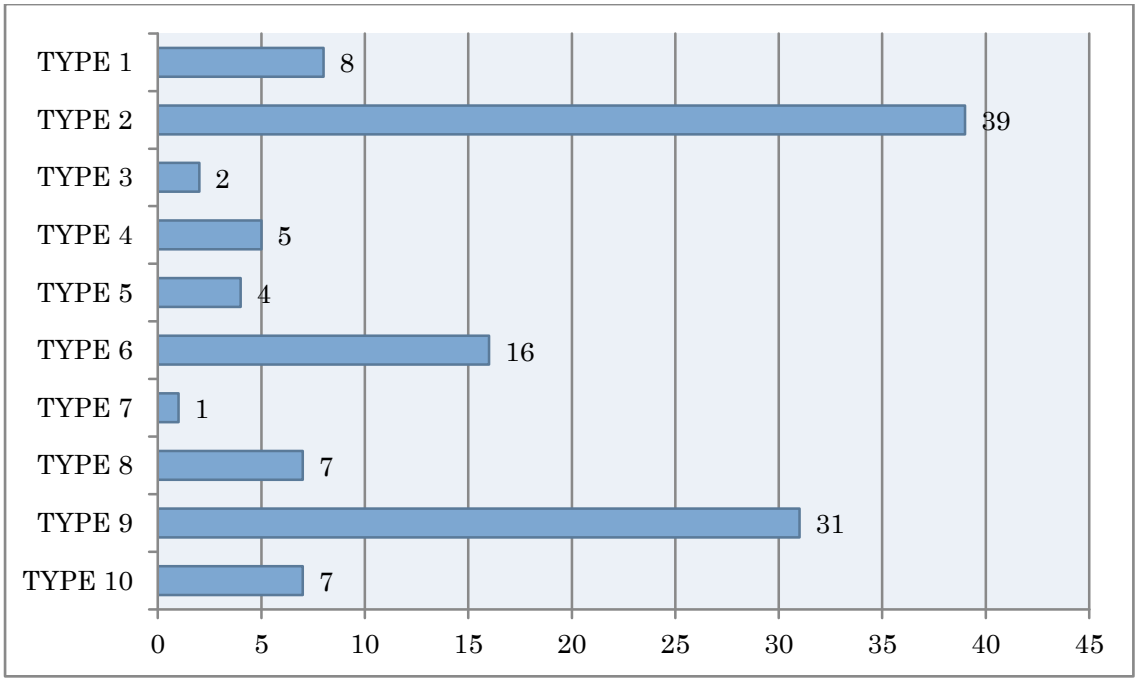


Figure 5.3: Overview of logic model types n=120

Figure 5.3 shows that the most frequent types of models were Type 2 (39 models) and Type 9 (31 models).

Each type within the typology is discussed and contains 4 elements:

1. Definition of the type
2. Category overview
3. Discussion of some exemplars – the flowcharts, tabular, narrative and shape formats are discussed separately
4. Discussion of type

   Size of category: The category sizes have been rated small (less than 10 exemplars)/ medium (between 10 -19 exemplars)/ large (20 and more exemplars)

   Key source: articles/manuals

   Main format: flowchart/tabular/narrative/ shape

   Comment:

TYPE 1: STANDARD LINEAR MODELS

Definition:

In this category all models match the United Way case exactly and have the components input-output-activities-outcomes. The models are all linear in nature.

Category Overview

Number of models in this category	**8**
Number of flowcharts	6
Number of tables	2
Number of narrative	0
Number of geometric shapes	0

Flowcharts

Some of models in this category were an exact match for the United Way paradigm, while others had the exact components and linearity but differed slightly in some respect. The model (shown in Figure 5.4) from Haggard L.M. and Brunett, S.J. (2006:190) was developed 10 years after the United Way model and is an exact match of the paradigm case. The *Constraints on the program* element, a feature of the United Way model, is also present in the model and it remains unobtrusive under the main heading of *inputs*.

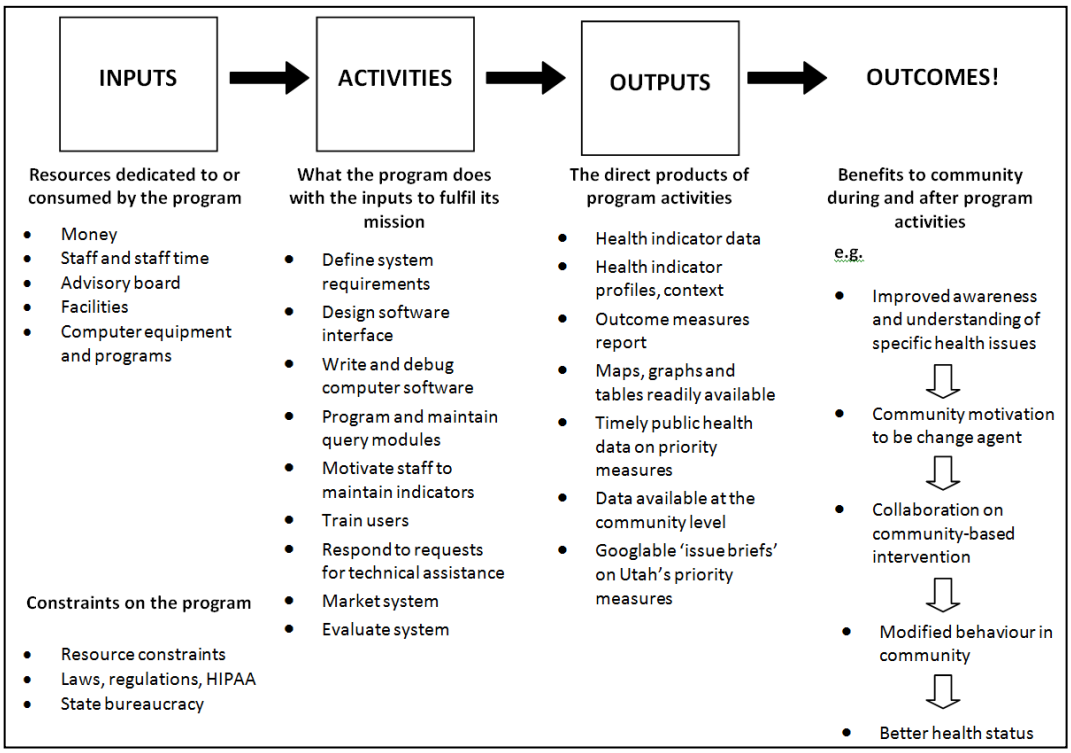
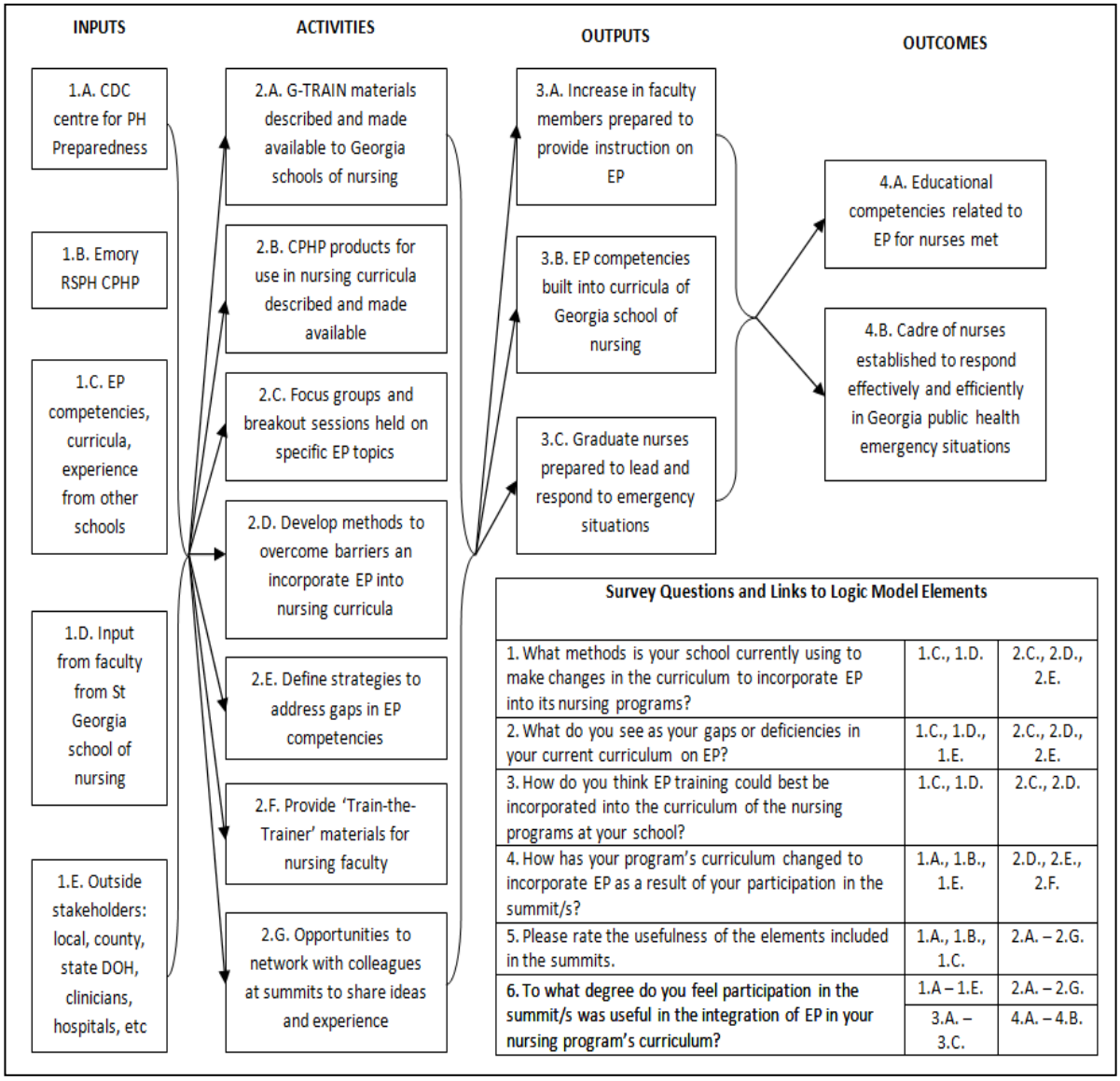


Figure 5.4: Type 1_ Haggard, L.M. and Brunett, S.J. (2006:190)

Three years after Haggard & Brunnet's 2006 model, two models were developed by MacPhee M (2009:144) and Dyehouse, M and Bennett, D (2009:190) which retain all of the original components of the paradigm case.

There were two models in this category which had interesting additions while not deviating substantively from the components of the paradigm case. The model from Cooksy, L.J., Gill, P. and Kelly, P.A. (2001:122) utilised the four core components but also contained three strands which represented the logic of three school interventions simultaneously.

Torghele, K., Buyum, A., Dubriel, N., Augustine, J., Houlihan, C., and Alperin, C. (2007:475) used a model shown in Figure 5.5.which had numbered *inputs*, *activities, outputs* and *outcomes* in the model and included a table alongside the model which showed a link between the data collection method (a survey and LM elements). The elements of the LM are listed in the columns on the right hand side of the table and are aligned with the numbered content.



Survey Questions and Links to Logic Model Elements		
1. What methods is your school currently using to make changes in the curriculum to incorporate EP into its nursing programs?	1.C., 1.D.	2.C., 2.D., 2.E.
2. What do you see as your gaps or deficiencies in your current curriculum on EP?	1.C., 1.D., 1.E.	2.C., 2.D., 2.E.
3. How do you think EP training could best be incorporated into the curriculum of the nursing programs at your school?	1.C., 1.D.	2.C., 2.D.
4. How has your program's curriculum changed to incorporate EP as a result of your participation in the summit/s?	1.A., 1.B., 1.E.	2.D., 2.E., 2.F.
5. Please rate the usefulness of the elements included in the summits.	1.A., 1.B., 1.C.	2.A. – 2.G.
6. To what degree do you feel participation in the summit/s was useful in the integration of EP in your nursing program's curriculum?	1.A – 1.E. 3.A. – 3.C.	2.A. – 2.G. 4.A. – 4.B.

Figure 5.5: Type 1_Torghele, K. et al. (2007: 475)

Tabular

Figure 5.6 shows a Standard Linear model (Carman, J.G.:265) which conforms to the United Way (1996b:vii) case but is presented in a tabular format. There is some "non-standard" content in the model for example: the outputs look like indicators of the activities which is erroneous. For example bullet 3 of the outputs which states "percentage of non-profits developing theories of change and logic models", which refers to a visible change in behaviour within NPOs, and cannot be seen as a "direct product" of the Accountability Movement, as the definition of Outputs at the top of the column suggests. The outcome column, like the paradigm case, has arrows inserted between the outcomes to show a vertical progression in the outcomes. This progression can be assumed to be time related, but this is not labelled as such in this model.

Logic Model for the Accountability Movement			
Inputs	**Activities**	**Outputs**	**Outcomes**
Examples: • Educational materials related to evaluation and performance measurement • Trained staff (or volunteers) dedicated to evaluation and performance measurement • Technical infrastructure (i.e., computer software, hardware) • Funding to support these activities • Support and interest from boards, funders, and executive leadership	*Examples:* • Funders require nonprofits to report performance information • Nonprofits rely on evidence-based programming • Nonprofits specify theories of change and develop logic models • Nonprofits gather data for evaluation and performance measurement purposes • Executive leaders support evaluation efforts	*Examples:* • Percentage of funders requiring evaluation and performance measurement • Percentage of nonprofits using evidence-based programming • Percentage of nonprofits developing theories of change and logic models • Percentage of nonprofits gathering outcome, control, or comparison data • Percentage of executive leaders supporting evaluation	*Examples:* • Nonprofits are aware that they need to do evaluation and performance measurement ↓ • Nonprofits are knowledgeable about evaluation and performance measurement ↓ • Nonprofits engage in evaluation and performance measurement ↓ • Nonprofits learn how to improve their programs ↓ • Nonprofits are more effective and efficient

Figure 5.6: Type 1 - Carman, J.G. (2010: 265)

Discussion

Size: This was a medium-sized category with eight models.

Key source: The key source for this grouping was articles. The United Way manual was the only manual in this grouping[81].

Main format: Type 1 contains two types of formats – flowcharts and tables but there are more flowcharts.

Comment: The Standard Linear model's simple format is probably appealing to those managing and evaluating projects as there are only a small number of components and the definitions of those components seem to be clear. However, signs of the definitions of components being restrictive are already present in the United Way case, as the *outcomes* are shown in a vertical progression with arrows between them. The use of arrows to indicate linearity and direction can be seen as an early precursor to later extensions (the lengthening of the causal chain) of the model which would soon follow (Type 2).

In addition, the inclusion of *constraints*, in the bottom left-hand corner of the United Way model can also be seen as a forerunner of later elaborations (the increased detail related to the four key components), which will be discussed under Type 3. The graphic for the *outcomes* in the original version[82] of the paradigm case (a human figure) implies that people are the only type of beneficiary, while Figure 5.6 shows Non-profits (an organisation) which changes in a positive way. While this distinction (between people and an organisation) may seem pedantic (certainly people manage and staff NPOs) we see that within Type 1 there are already signs that the limits of the very specific and bounded components are being tested.

[81] Other manuals may certainly be available in grey literature.
[82] The United Way model shown in this study no longer contains the graphic of the person as the model had to be redrawn as the original version lacked clarity

TYPE 2: EXTENDED LINEAR MODEL

Definition:
In this grouping all models have the four paradigm case components but with additional components which extend the causal chain.

Category Overview

Number of models in this category	**39**
Number of flowcharts	29
Number of tables	10
Number of narrative	0

This is the largest category in the LM typology. In Type 2 models, the causal chain of the four basic components (*input-activities-output-outcome*) is lengthened or extended by additional components. The extension occurred in four different ways:

1. Disaggregation of *outcomes into initial/immediate, intermediate and long term*
2. *Impact* added to *outcomes*
3. Disaggregation of *outcomes* and addition of *target group /participants*
4. Disaggregation of *outcomes* and addition of *problem* (situation) and *target group*

Disaggregation of the outcomes only

Flowcharts

This type of extension was found in eleven (out of twenty nine) flow charts. The models in this grouping disaggregate *outcomes* into initial, intermediate and long term *outcomes* as shown in Figure 5.7 (Weiss, 2007:207). The terms utilised in the models may differ slightly e.g. short/medium/long term (Evaluation Support n.d.) but the concept of disaggregated *outcomes* remains the same. Although the Weiss model does not clearly delineate the change in *outcome* type in the left hand column, "Benefits or changes in the population of interest", the reader may assume that the changes are time related.

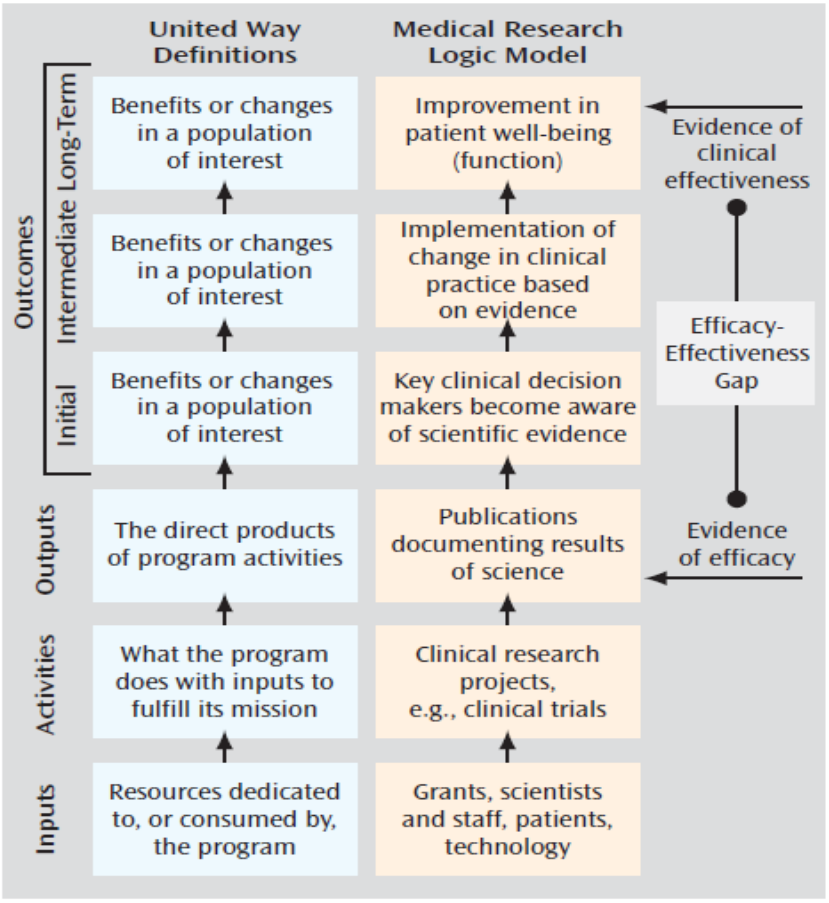
But the example on the right shows that different kinds of change have occurred in the different time periods:

- Awareness – "Decision makers become aware"
- Behaviour – "Change in clinical practice"
- Improved health – "Improvement in patient well-being".

The shift in target groups - from medical staff (decision makers and practitioners) to patients - is not emphasized in this particular model although it can be inferred.

Tabular

There were six models (out of ten) which were tabular in nature and extended the *outcome* component of the model. Figure 5.8 shows an example from Armstrong and Barison (2006:484) that disaggregates the *outcomes*. In this case, the *outcomes* are only disaggregated into two timeframes- immediate and intermediate. The model presents a chain of *outcomes* which begin with "increased knowledge about active learning" and "new understanding" of how "medical education is implemented", which eventually leads "to belief" that the "program was transformational", and this leads to an expanded network of colleagues. Unlike the Weiss model (Figure 5.7) the *outcome* chain ends with benefits to the grouping of participants and does not move beyond the boundaries of the programme.



[a] Adapted from United Way (12). Used by permission, United Way of America.

Figure 5.7: Type 2 _Weiss, A.P. (2007: 207)

Another Type 2 model found in Scheirer, M.A. (2000:143) also only has two timeframes but in this case only short and long term outcomes.

The Outcomes Logic Model for the Harvard Macy Institute Program for Physician Educators, Harvard Medical School*

Component	Description
Inputs What resources are dedicated to or consumed by the program?	• Funding from foundation (initially); tuition plus operational budget (currently) • Faculty and staff time (within HMS, Harvard University, and beyond) • Facilities at HMS and associated hospitals
Activities What does the program do with inputs to fulfill its mission?	• Systems to publicize program, screen potential participants, manage course logistics, etc. • Curriculum design that incorporates: (1) assessment of learning needs, (2) interactive learning and opportunities to practice, (3) sequenced and multifaceted activities, and (4) outcome evaluation. • Ongoing curriculum updating • Winter and spring sessions with evaluation during and after both sessions to judge whether program is meeting needs and is implemented as planned. • Systems to support medical educator networking and communities of practice before, during and after participation, e.g., HM-PE Web site, participant reunions, recruitment of program alumni as Faculty Scholars.
Outputs What are the direct outputs of program activities?	• Number of applicants and participants since the program began • Average number of hours a participant spends on the program and related activities • Number of participants from HMS • Number of participants from across the United States and internationally • Number of "hits" on HM-PE Web site
Outcomes What are the immediate and intermediate benefits for participants during and after program activities?	*Immediate* • Increased knowledge about active learning methods and greater capacity to be learner-centered educators. • New understanding of and appreciation for ways medical education is implemented in institutions nationally and globally. *Intermediate* • Belief that the program was "transformational," leading to an increased commitment to medical education as a primary career direction and stronger identity as a medical educator. • Expanded network of colleagues in medical education and communications with like-minded physician educators, e.g., via virtual communities, ongoing emails, collaborative activities.

* The outcomes logic model seeks to document to what extent the immediate and intermediate outcomes shown above are attained by program participants.

Figure 5.8: Type 2_Armstrong E.G. and Barison S.J (2006: 484)

Impact added to outcomes

Flow charts

Five flowcharts (out of twenty nine) *impact* add as a component to extend the causal chain. In the W.K.Kellogg model (2004:1) shown in Figure 5.9, Longest, B (2005:558) and Innovation Network Manual (n.d:4) the *outcomes* are not disaggregated but remain intact. It may be that the *impact* component is viewed as equivalent to long-term outcomes but this is not evident from the graphic alone.

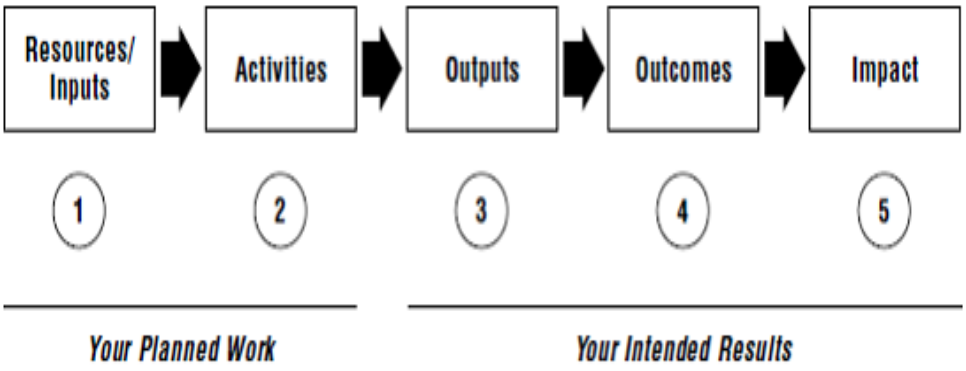


Figure 5.9: Type 2_W.K.Kellogg (2004:1)

In two other models, Goodstadt, M (2005:3) shown in Figure 5.10 and the Department for Transport United Kingdom (2010:5), the *outcomes* have been disaggregated and *impact* has been added. This format makes a distinction between the time-bound *outcomes* and *impact*. Funnel & Rogers (2011:27-30) describe the range of meanings of the term "impact" in eight organisations in five different countries (Australia, South Africa, Canada, India and the United States of America). From the descriptions that they provide, it is clear that in some instances impact is linked to time - as in "long term" (as in AusAid), or specifically within a time frame of "seven to ten years" (W.K. Kellogg Foundation) or simply " after program activities" (United Way). Thus it is critical when providing a graphic that the definitions of terms are provided. Without these definitions, models can easily be misinterpreted. Figure 5.9 which is the W.K. Kellogg model, requires developers to only provide outcomes that can be attained before seven years under the *outcome* component but this is not obvious from the model alone.

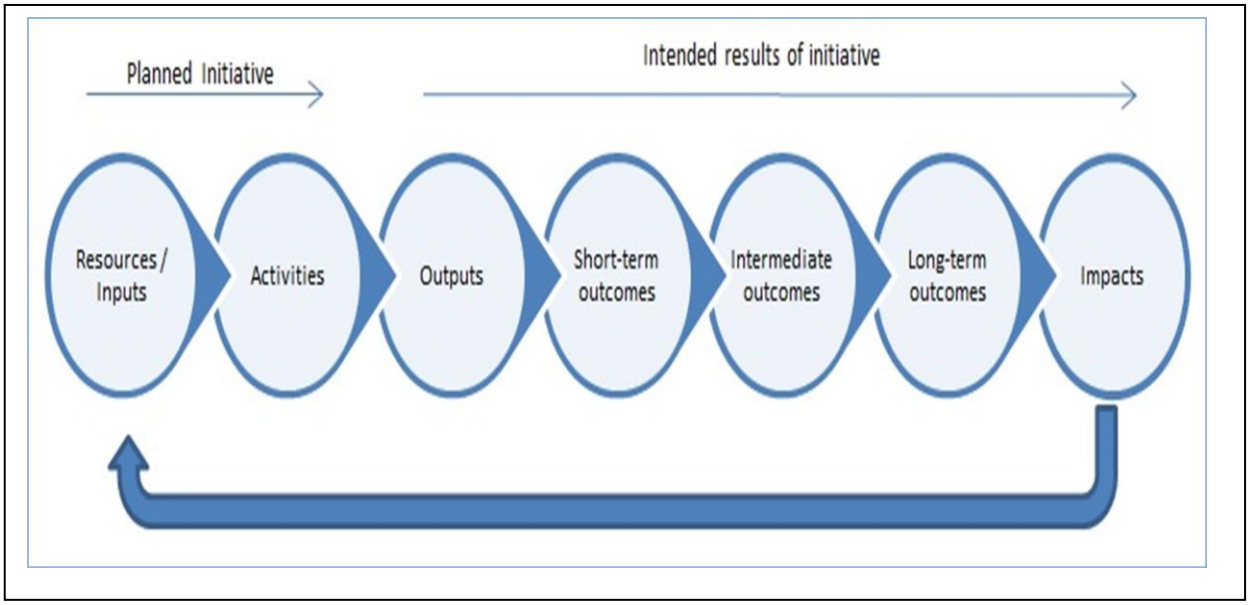


Figure 5.10: Type 2_Goodstadt M (2005:3)

Tabular format

In four tables (out of ten) *impact* is added as a component to extend the causal chain. In McLearan, K. (2003:47) *impact* is added to *outcomes* which remain intact, while in the table from W.K. Kellogg Foundation (2004: 25) *impact* is added after short- and long term *outcomes*. An extract from the W.K. Kellogg model is shown in Figure 5.11. In the table, unlike in Figure 5.9 (the flowchart) the time frames for the *outcomes* and *impact* are shown. W.K. Kellogg defines outputs as "evidence of service delivery" not as "direct products of program activities", as defined in the paradigm case. The "short and long term *outcomes*" include content that would be regarded as *outputs* using the United Way definition – "Memorandum of Agreement for free clinic space". The *impact* and even the final two bullets of the *outcomes* seem far beyond the reach of programme activities, and are certainly beyond the direct participants of the programme.

ACTIVITIES	OUTPUTS	SHORT- AND LONG-TERM OUTCOMES	IMPACT
In order to address our problem or asset we will accomplish the following activities:	*We expect that once accomplished these activities will produce the following evidence or service delivery:*	*We expect that if accomplished these activities will lead to the following changes in 1–3 then 4–6 years:*	*We expect that if accomplished these activities will lead to the following changes in 7–10 years:*
• Launch/complete search for executive director • Board & staff conduct Anywhere Free Clinic site visit • Board & staff conduct planning retreat • Design and implement funding strategy • Design and implement volunteer recruitment and training • Secure facility for clinic • Create an evaluation plan • Design and implement PR campaign	• # of patients referred from ER to the clinic/year • # of qualified patients enrolled in the clinic/year • # of patient visits/year • # of medical volunteers serving/year • # of patient flyers distributed • # of calls/month seeking info about clinic	• Memorandum of Agreement for free clinic space • Change in patient attitude about need for medical home • Change in # of scheduled annual physicals/follow-ups • Increased # of ER/physician referrals • Decreased volume of un-reimbursed emergencies treated in Memorial ER	• Patient co-payments supply 20% of clinic operating costs • 25% reduction in # of uninsured ER visits/year • 300 medical volunteers serving regularly each year • Clinic is a United Way Agency • Clinic endowment established • 90% patient satisfaction for 5 years. • 900 patients served/year

Figure 5.11: Type 2_extract - W.K. Kellogg (2004:25)

In other exemplars not shown, Crane (2011:911) and Purdue University (2000:5) *outcomes* and *impact* are equated – that is the long-term *outcome* is shown as synonomous with *impact*. In Lindgern (2001:292) the model has *outcomes* which are disaggregated by level, i.e. for individuals and society rather than timeframes.

Disaggregation of outcomes and addition of target group / participants

Flowcharts

This format was present in five models (out of twenty nine). An example of this is shown in Figure 5.12 (Medeiros *et al.* 2005:198). Those receiving the intervention are called either *target group* or *participants*. The splitting of *outputs* into *activities* and *participants* is a key element of the logic models that were developed by the University of Wisconsin Extension (UWEX) in 2008. The influence of the 2008 manual on LMs is discussed later in this section. The Healthcare Georgia Foundation (2012:6) uses the term "participation" and includes both those receiving and those involved in the delivery of the programme. This integration of both parties under one label can be misleading.

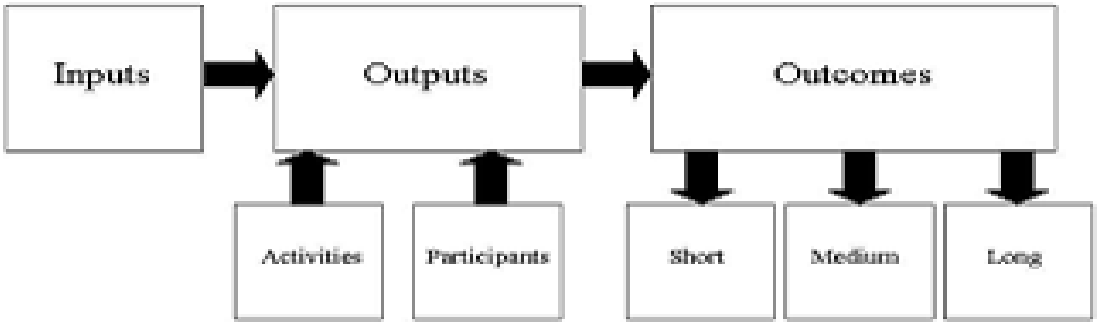


Figure 5.12: Type 2_Medeiros et al. (2005:198)

Tables

The disaggregation of *outcomes* and the addition of *participants* is present in two tables (out of ten) - Purdue University (2000:5) and McLaughlin, J.A. and Jordan, G.B (1999:67).

The model from McLaughlin & and Jordan (1999:67) is shown in Figure 5.13.The developers of this model use unusual terminology when describing the participants - "Customer reached", and list beneficiaries that are within ("federal and private researchers") and outside of the programme ("Existing/future consumers of related products"). Also unlike the flowchart shown in Figure 5.12, which includes participants, this model does not follow the pattern of the UWEX (2008) type models and disaggregate *outputs* into *activities* and participants. In this model, each of these components features in the model at the same level, extending the causal chain. The placement of the "Customer Reached" column is unusual as it follows *outputs* rather than *activities*. The usual format would be *activities* and then *target group*. The Purdue University model (2000:5), which is not shown here, uses the term "participation" and includes both those receiving and those involved in the delivery of the programme. This construction is the same as The Healthcare Georgia Foundation (2012:6) model, which is a flowchart. This indicates that the kinds of components and their definitions are not format specific.

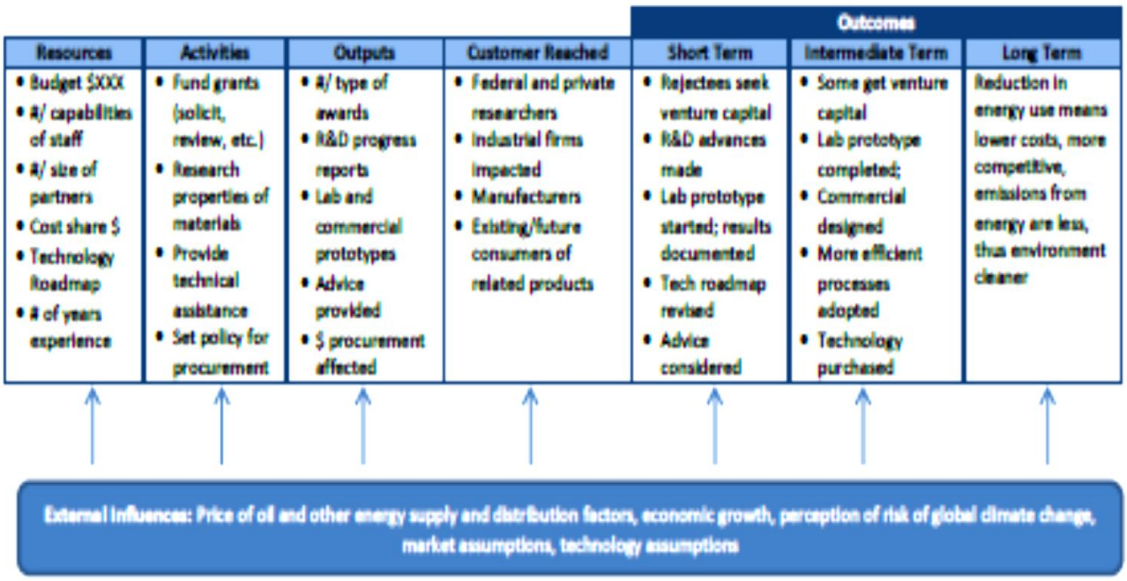


Figure 5.13: Type 2_ McLaughlin & Jordan (1999: 67)

Disaggregation of outcomes and addition of problem (situation) and target group

There are no tables that contain this extension - only flowcharts.

Flowcharts

There are eight flowcharts (out of twenty nine) that have this particular structure. The structure of the model from UWEX is shown in Figure 5.14. This model has the identifiable branding of the UWEX model:

- the use of the term "S*ituation*", which refers to the problem the intervention is addressing
- the splitting of the *Outputs* component into A*ctivities* and *Participation*
- assumptions and external factors framing the model
- use of bright colours in the model

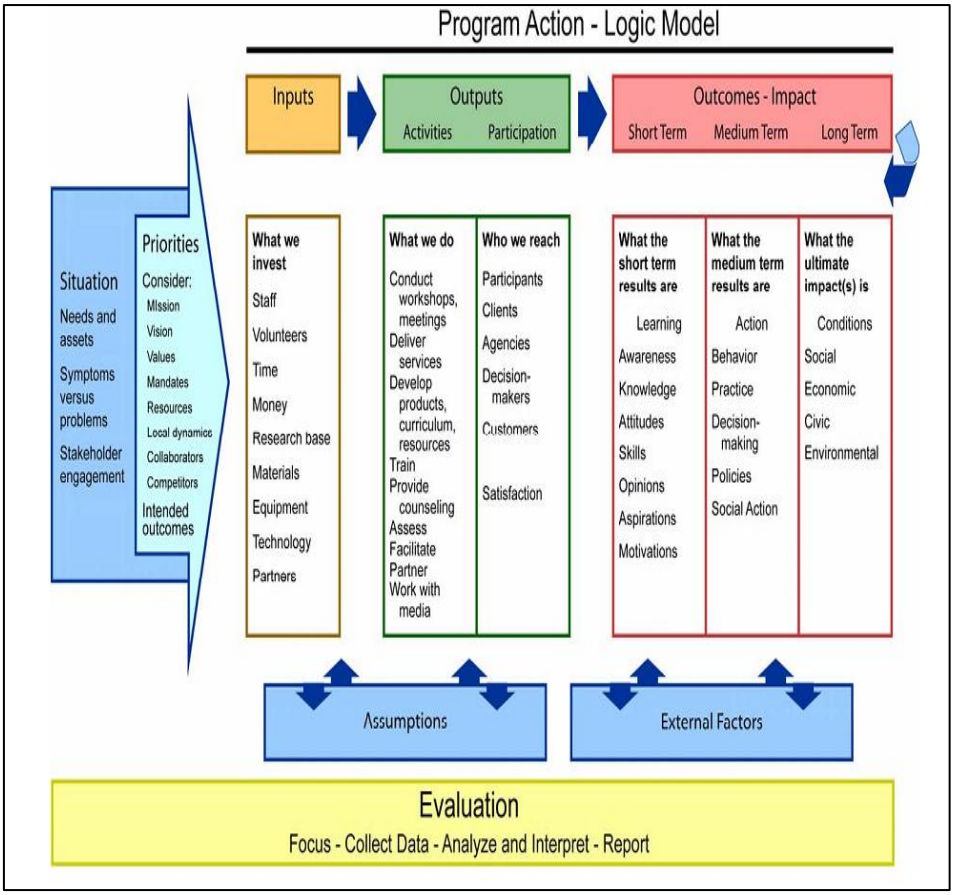


Figure 5.14: Type 2_University of Wisconsin Extension Manual (2008: Handout 14)

Two of the models in this category simply replicate the UWEX model – Medeiros et al. (2006:199) and UNESCO (2009:26) and acknowledge the original source, while others remove the colour branding and typical format and utilise the identical components - Arnold M (2006:261), Evaluation Support Manual (n.d.:3), Trinity College, Dublin (2008:8); University of Idaho (n.d.:1) and Medical Reserve Corps (2007:10).

An example of a model that is slightly modified but still uses the UWEX components is shown in Figure 5.15. The Evaluation Support model changes the term *participation* (UWEX) to *participants*. Another example of a modification can be seen in the Medical Reserve Corps Manual (2007:10) which has omitted assumptions from its model, but all other components and framing are still present. The easy-on-the-eye format and bright colours used in the UWEX model, shown in Figure 5.15, has ensured that this model is appealing to many developers and evaluators.

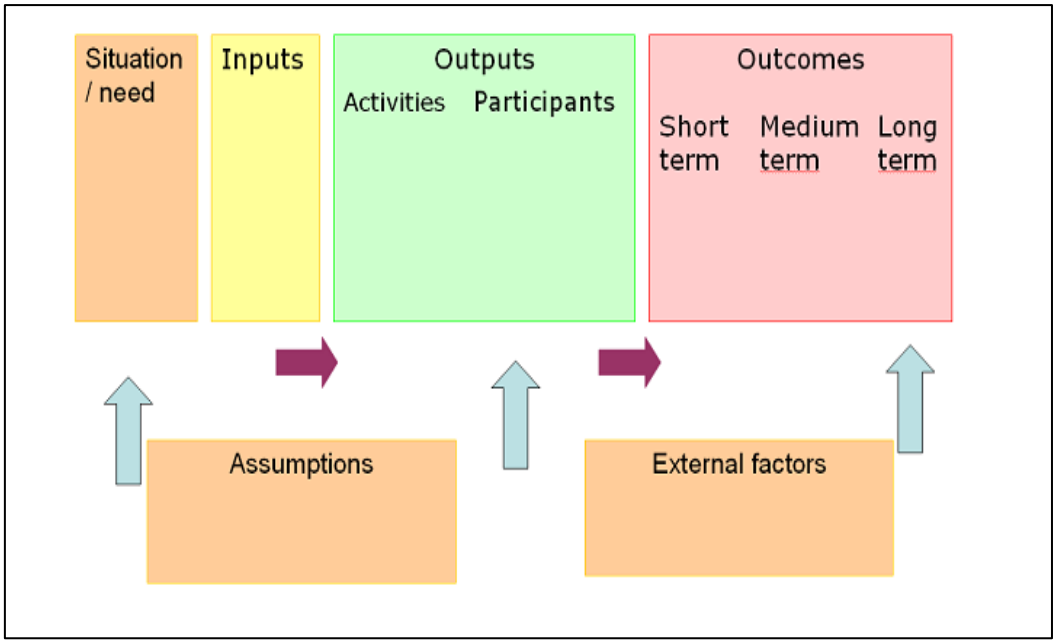


Figure 5.15: Type 2_Evaluation Support (n.d.:3)

Figure 5.16[83] shows an excerpt from the UWEX webpage which details the UWEX model format. The UWEX webpage divides LMs into two key groupings - those which follow the UWEX format of dividing *outputs* into *activities* and *participation* and disaggregated *outcomes*, and those they claim to be following the United Way approach. They describe the "United Way and other agencies" models as:
Input – Activities - Outputs – Short-term outcomes – Medium-term outcomes - Long-term outcomes.

It is important to note that the United Way model that UWEX describe is not the original prototype – the version of the United Way model that they refer to already shows an extended *outcome* chain. This modification of The United Way Model (2008:26) is discussed in greater detail under Type 4[84] but the differences in two types of models are important to note at this point.

[83] http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html sourced 2.10.13
[84] The United Way model falls into Category 4 as not only did the second version of the United Way model extend the core components, additional components that elaborated on the core components were also added. Type 4 comprises Extended and Elaborated models.

The United Way model (2008:26) does (a) not include a *problem* or *situation* component and (b) the *target group* is not contained in the key components - it is shown to be framing the model. The models are in fact not that different and the importance of each donor's brand seems to be the issue at play i.e. UWEX's split *outputs* and United Way's integrated *outputs* allowed particular donors to develop a recognisable trademark for their grantees and projects.

The UWEX webpage indicates that their LM is in fact the product of their experience of other models. They explain their division of *outputs* in the following way:

> The UW-Extension logic model draws on experience with the USAID Log Frame (~1971) and the hierarchy of program effectiveness (Bennett, 1976; later with Rockwell, 1995), long a program evaluation framework in Cooperative Extension nationwide as well as work by Wholey, 1979, 1987; Mayeske, 1994; Reisman, 1994; United Way, 1996; Montague, 1997 and others. This logic model classifies Activities as OUTPUTS where we also include Participation.
>
> This has allowed us to simplify the model and language helped us focus on outcomes versus outputs allowed us to attend equally to the important aspects of who participates or is reached that is central to our programming and diversity goals. (University of Wisconsin Extension webpage[85])

[85] http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html accessed 02.10.13

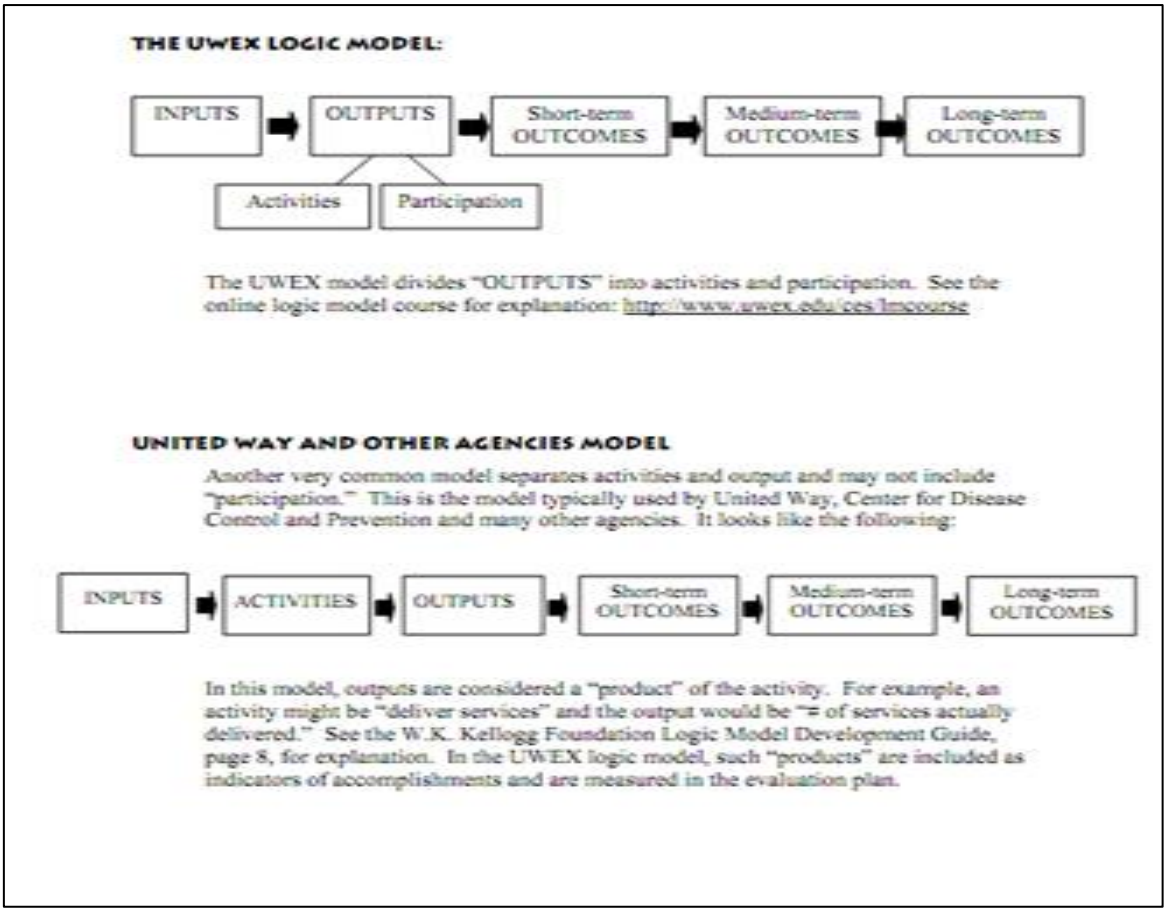


Figure 5.16: Extract from UWEX webpage

Although it is not known when the UWEX webpage was developed or updated, the references to the origins of the UWEX format LM are all fairly old – and read like the origins of development of LMs and LFs. Reference is made to the United Way experiences and importantly also to those of the USAID logframe. The web page comment also points to the Holy Grail for all LM developers and manual providers "to simplify the model and language".

Although UWEX provide the model shown in Figure 5.11 as a hand-out for training in their model (2008, Hand-out 14) UWEX has a range of LMs (more or less detailed) that are used depending on the nature of the project and organisation. Some of the UWEX models have fewer components than the one shown in Hand-out 14 and one of the UWEX models (2008:4) is included in Type 5 of this typology, which includes Truncated Linear models – those with fewer components than the United Way paradigm case.

Discussion

Size: Type 2 is a large category and contains 39 exemplars

Key source: The key sources for this grouping were articles (20) and manuals (18).

Main format: It contains two types of formats – flowcharts and tables – but flow charts are more prevalent.

Comments: The Extended Linear Model type still retains the fairly simple original format of Type 1. Extensions are carried out in four ways (three which involve disaggregating the *outcome* component) and the addition of the *problem/situation* or *target group*. The most frequent way of extending models is by disaggregating the *outcomes* (11), followed by the disaggregation of *outcomes* and addition of *situation* and *target group* (8) as per the UWEX model. The last two ways of extending the causal chain occur by adding *impact* (5) and *target group/participants* (5).

The teasing out of components in this category indicates that the developers of this group of Extended Linear Models found the four core United Way components to be too limiting, and therefore unpacked components to include a greater level of detail. The impact of both the United Way and UWEX models can be seen in this grouping, and the UWEX webpage provides interesting insight into the branding of the models from different donors.

The common principle that underpins the extension (whether through disaggregation of *outcomes* or addition of *impact*) is in fact the same, namely the fairly obvious point that outcomes take time to materialize. *Outcomes* and *impact* are time-bound, and more so with complex interventions. It takes time for the *outcomes* of an intervention to "show themselves", to be visible. Some *outcomes* are dependent on prior *outcomes* being achieved. The fact that the original Type 1 logic model "collapses" *outcomes* into one component is evidently restrictive and simply wrong. In this way Type 2 (the extended linear LM type) improves on the original Type 1 and makes it more realistic and feasible.

TYPE 3: ELABORATED LINEAR

Definition:

In this category all models have the four paradigm case components, with additional components that provide more detail on case components in a linear format.

Category Overview

Number of models in this category	**2**
Number of flowcharts	1
Number of tables	1
Number of narrative	0

Two model examples were classified as belonging to this type:

- Otto, A.K., Noveilli, K. and Mohoran, P.S (2006:282)
- Dyehouse M. and Bennett D. (2009:188).

Figure 5.17 is an example of how *indicators* have been added to the four core paradigm components. In this case the *indicators* are linked to the *outcomes*. The inclusion of *indicators* became part of the modified United Way model (2008:24)

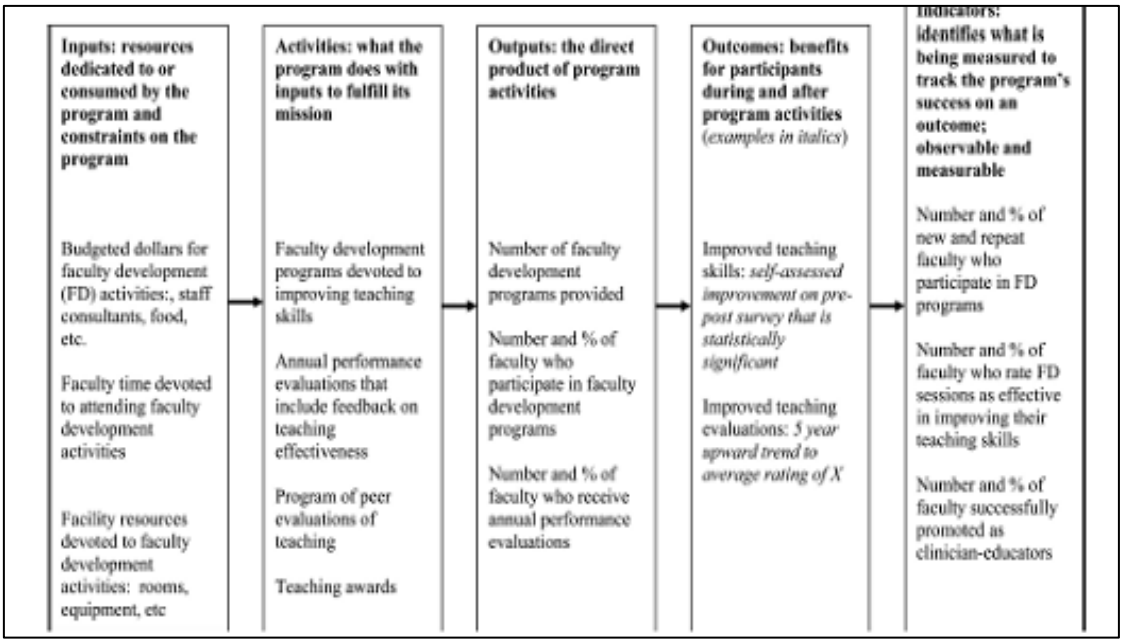
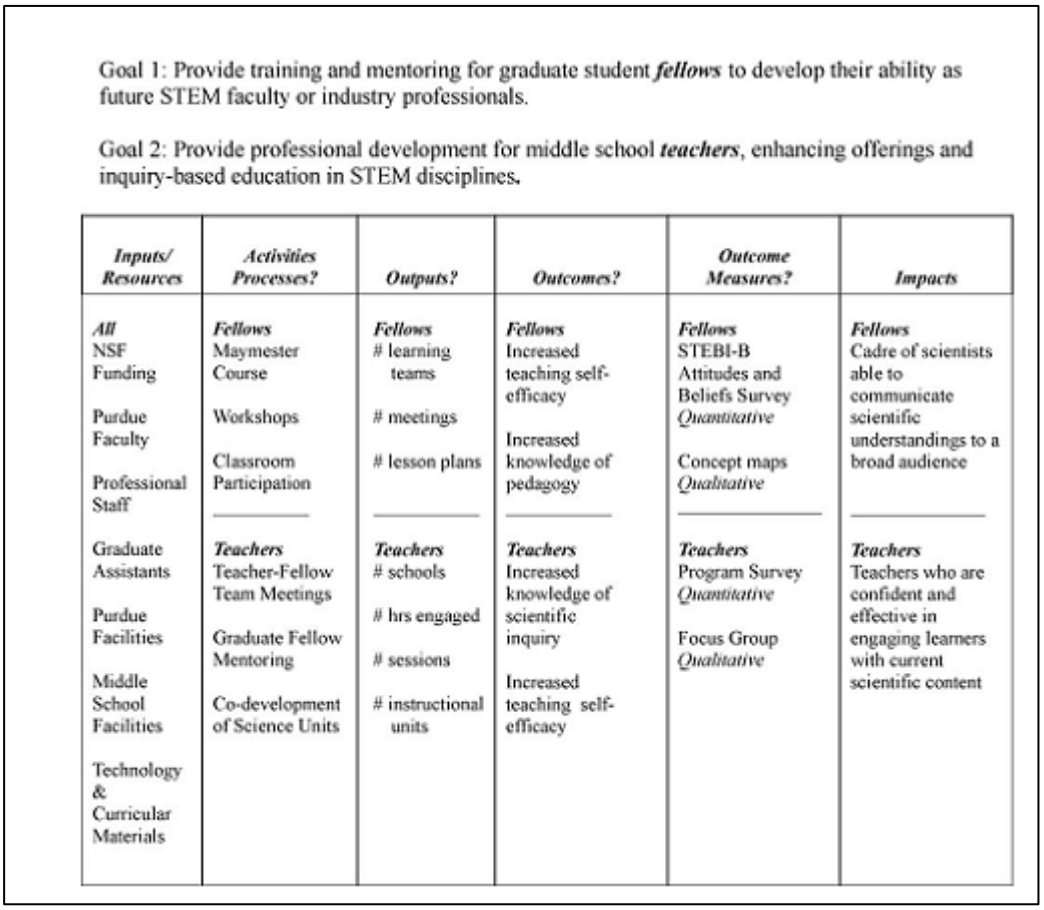


Figure 5.17: Type 3_Otto *et al* (2006:282)

But even then, the *indicators* lie outside (below) the causal chain. Also, the arrows in Figure 5.17 linking *outcomes* and *indicators* should in fact be the other way around, as the *indicators* elaborate on outcomes, and do not form part of the causal chain. This is the reason why these two models have been classified in this category and not as Type 2 logic models.

The other model in this category - from Dyehouse & Bennett (2009:188) includes *outcome measures* (which refer to data collection methods). Once again the *outcome measures* elaborate on *outcomes* but do not extend the causal chain.



Goal 1: Provide training and mentoring for graduate student ***fellows*** to develop their ability as future STEM faculty or industry professionals.

Goal 2: Provide professional development for middle school ***teachers***, enhancing offerings and inquiry-based education in STEM disciplines.

Inputs/ Resources	*Activities Processes?*	*Outputs?*	*Outcomes?*	*Outcome Measures?*	*Impacts*
All NSF Funding Purdue Faculty Professional Staff Graduate Assistants Purdue Facilities Middle School Facilities Technology & Curricular Materials	***Fellows*** Maymester Course Workshops Classroom Participation ***Teachers*** Teacher-Fellow Team Meetings Graduate Fellow Mentoring Co-development of Science Units	***Fellows*** # learning teams # meetings # lesson plans ***Teachers*** # schools # hrs engaged # sessions # instructional units	***Fellows*** Increased teaching self-efficacy Increased knowledge of pedagogy ***Teachers*** Increased knowledge of scientific inquiry Increased teaching self-efficacy	***Fellows*** STEBI-B Attitudes and Beliefs Survey *Quantitative* Concept maps *Qualitative* ***Teachers*** Program Survey *Quantitative* Focus Group *Qualitative*	***Fellows*** Cadre of scientists able to communicate scientific understandings to a broad audience ***Teachers*** Teachers who are confident and effective in engaging learners with current scientific content

Figure 5.18: Type 3_Dyehouse & Bennett (2009:188)

Discussion

Size: Type 3 is a small category and contains only 2 examples

Key source: The key source for this grouping was articles.

Main format: It contained two types of formats – flowcharts and tables (but only one of each).

Comments: These two models contain elaborations of the paradigm case. Both elaborations (the inclusion of *indicators* and *outcome measures*) suggest that concerns regarding the application of these models began to affect the way in which models were being developed and represented. This is an interesting and potentially crucial shift in the development and history of LMs. In the original representations of interventions (in LMs) the aim was to capture the essential logic of *inputs* to *outputs* to *outcome* (the implicit theory of change). Later extensions to the causal chain, which involved disaggregation of *outcomes* or the addition of *impact*, did not constitute a significant deviation from this initial purpose. One could even argue that elaborations on specific components stayed within the original purpose of capturing the core logic of interventions. However, the inclusion of *indicators* and *outcome measures* (as well as data sources) meant that the focus now shifted to the application of LMs in monitoring and evaluation practice.

This shift is reminiscent of a distinction made by Abraham Kaplan in 1964 (*The conduct of inquiry*) between the "reconstructed logic" and "logic in use". The first (reconstructed logic) for Kaplan referred to the basic methods of science (key logical principles). The "logic in use" referred to the actual practice of scientific inquiry when such methodological principles are applied in practice. There would seem to be a similar distinction in the history and development of logic models. In the original representations the focus was on the "reconstructed logic" of interventions and capturing the core causal "story" of an intervention. In the later representations, the focus shifted to how the logic model could be used in practice (logic in use), which meant that considerations of measurement (*indicators*) and even data collection (*data sources*) were now seen as being relevant. The fact that the LF from its initiation included references to *indicators* and *means of verification* can probably be explained by the fact that it was linked very early on to specific monitoring methodologies as in the ZOPP framework of GTZ.

TYPE 4: EXTENDED AND ELABORATED LINEAR MODEL

Definition:

In this grouping all models have four paradigm case components PLUS additional components which provide more detail on case components AND

Category Overview

Number of models in this category	**5**
Number of flowcharts	3
Number of tables	2
Number of narrative	0

This category is interesting in that it contains models that are found only in manuals:

1. Centre for Effective Services (2011:16)
2. Flex Monitoring Team (2006:6)
3. Medical Reserve Corps. (n.d.:2)
4. The Health Communication Unit (THCU, University of Toronto 2001:4)
5. United Way (2008:39)

The modified United Way model (2008:26) shown in Figure 5.19 contains the original four components from its prototype twelve years earlier, but the *outcomes* are now disaggregated (as hinted at in the original 1996 model) and *activities* now lie under the larger heading of *Strategies*. The disaggregated *outcomes* are the key extension of the model.

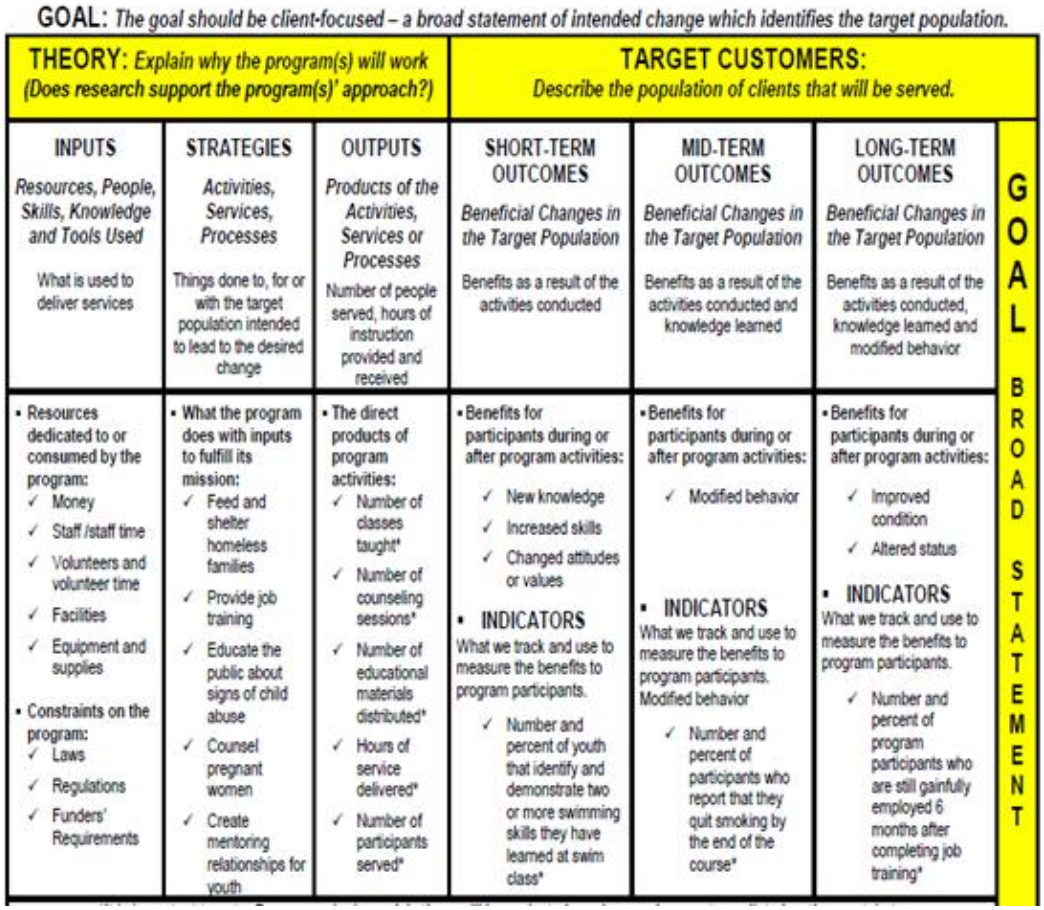


Figure 5.19: Type 4_United Way (2008:26)

The key elaboration is the inclusion of *indicators* that feature under each of the time-bound *outcomes* components. The *target group* has been included, but this component, like the *indicators* and *goal*, lie outside of the flow of the causal chain. It is therefore clear that they are elaborations, and not an extension, of the logic of the intervention. In the top right-hand corner, external to the model, is a reference to Theory which states, "Explain why the program will work". This seems to indicate that United Way is indicating that the model is depicting the logic and not theory of the intervention, but would like users of the model to consider and articulate the theory behind the programme. The rest of the models in this group do not show a close connection to the United Way model (2008:26) at all. There is no clear pattern in the models in this category – except that they all have extended and elaborated on the original United Way (1996:3) paradigm case in some way.

Figure 5.20 which shows one of the models from this grouping developed by The Centre for Effective Services (a consultancy company)which contains the key components of the

United Way modified model. It is in quite a different format with *strategies* lying outside the model and *activities* and *outputs* presented together in a way that loses the distinction between the two components. The format of this model also does not clearly divide the *outcomes* and the reader is required to assume the time frames of the *outcomes* shown.

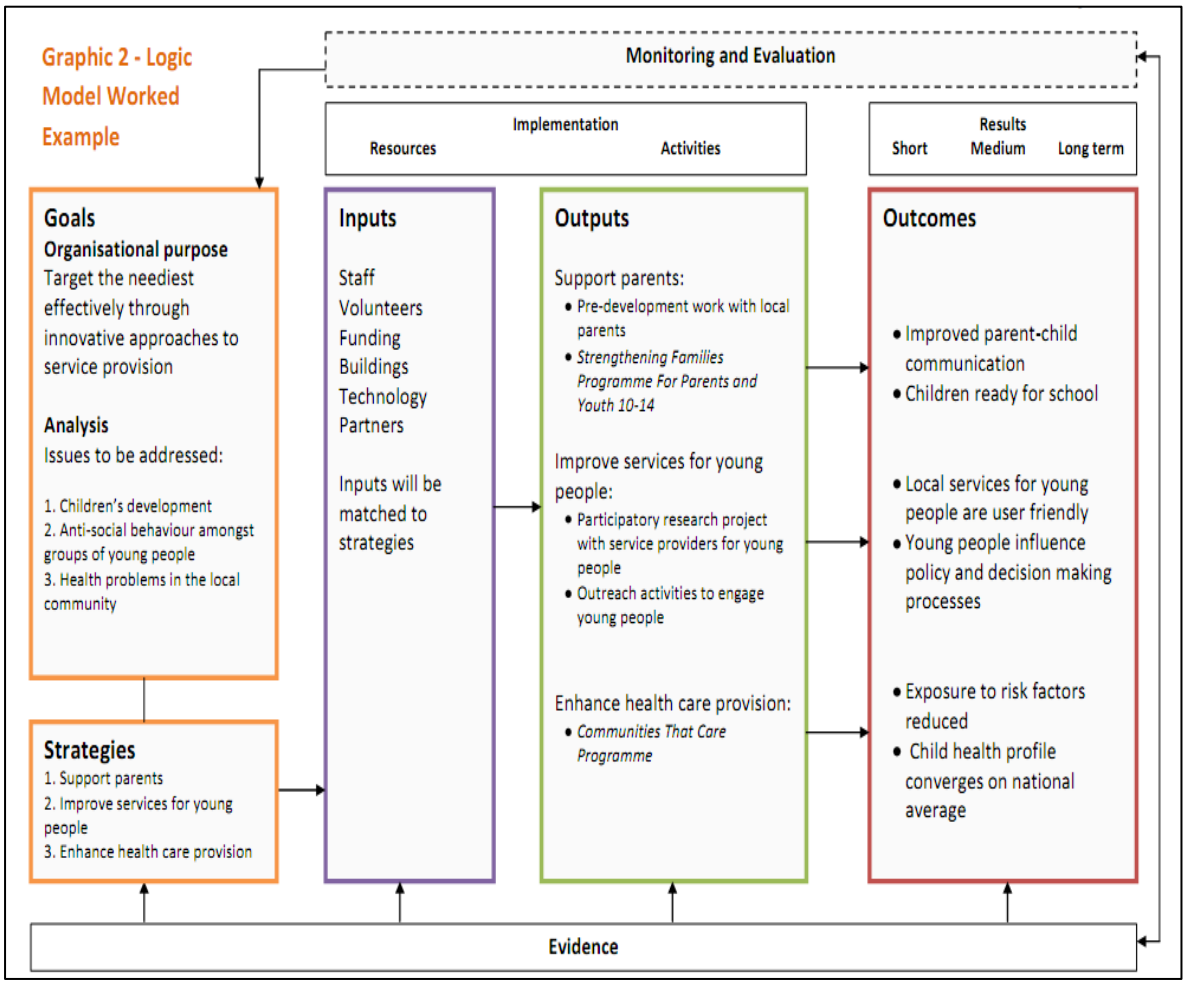


Figure 5.20: Type 4_Flex Monitoring Team (2006:6)

Figure 5.21 which shows a model from the Flex manual (2006:6) looks like a blend of the United Way and UWEX models as it contains the *problem* component of the UWEX model but the *strategy* component of the modified United Way model. As Figures 5.19 and 5.20 show, there is a fair degree of variation in this grouping. They all contain the original four components of the prototype and have all disaggregated the *outcome*

column, but are quite different in format from one another:

- Centre for Effective Services (2011:16) - adds *goals, analysis* and *strategies* and combines *activities* and *outputs* in an indistinguishable way
- Flex Monitoring Team (2006:6) – adds *problem, strategy* and combines short and intermediate term *outcomes*
- Medical Reserve Corps (n.d.:2) – adds *situation*, *mission* and *goals*
- The Health Communication Unit (THCU), University of Toronto (2001:4) –adds *goals*, *strategies* and *indicators*
- United Way (2008:39) - has combined *strategies* and *activities* and added *indicators* under the disaggregated *outcomes*.

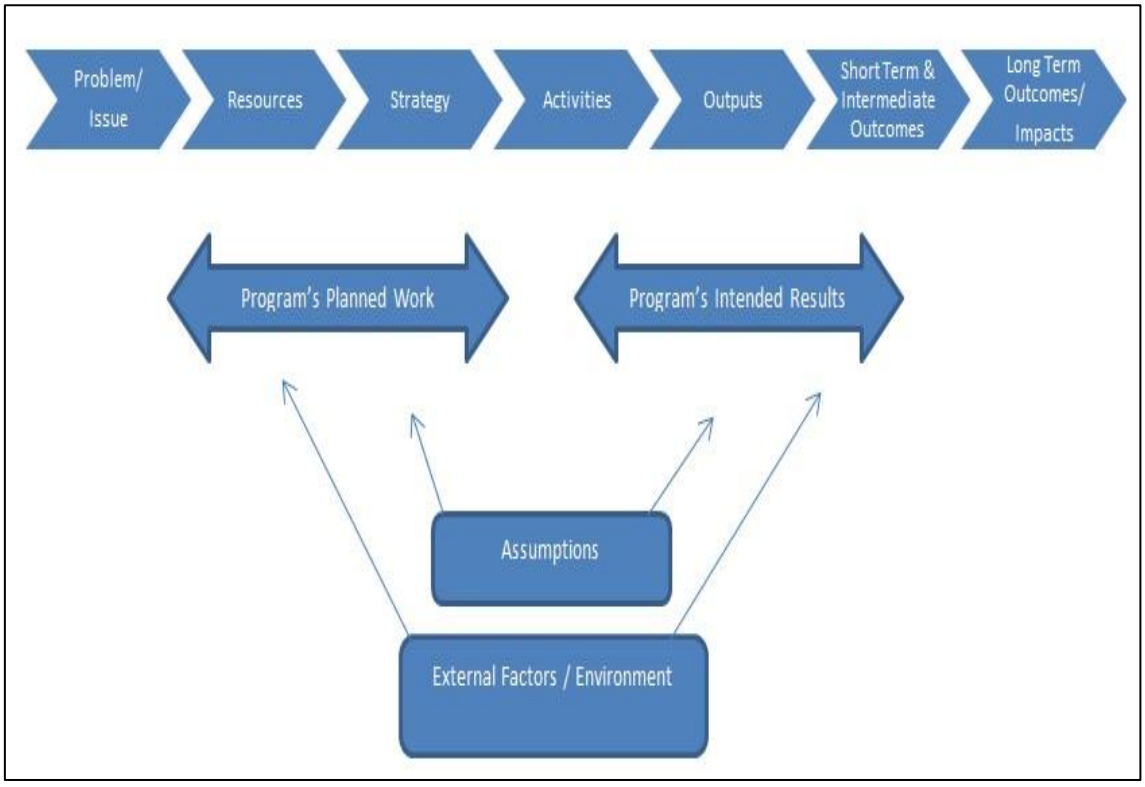


Figure 5.21: Type 4_Centre for Effective Services (2011:16)

Discussion

Size: Type 4 is a small category with only 5 exemplars

Key source: The only source for this grouping was manuals.

Main format: It contains two types of formats – flowcharts and tables (three flowcharts and two tables).

Comments: This is the least cohesive category within the typology, with little in common between the models except that they all experiment with a range of components and formats. Both the revised UWEX manual and the United Way Manual were published in the same year (2008), and many of the models that came after them chose to follow key elements of either of these formats, or a blend of them. The models that are in this category, except for one (Centre for Effective Services), were developed before the key publications of the United Way and UWEX. This may account for the experimentation with components and formats found in this category.

TYPE 5: TRUNCATED LINEAR MODEL

Definition:

In this category all models have the three or fewer paradigm case components with a linear format.

Category Overview

Number of models in this category	**4**
Number of flowcharts	3
Number of tables	1
Number of narrative	0

This is a very small category with only four models in the grouping:

- Monroe, M. *et al.* (2005:64)
- Goodson, P., Pruitt, B.E., Suther, S., Wilson, K. and Buhi, E. (2006:265)
- Anderson, L.A. Gwaltney, M.K., Sundra, D.L., Brownson, R.C. (2006:9)
- University of Wisconsin (2008:44).

Two of the models from this category are shown in the Figures 5.22 and 5.23. Figure 5.22, the UWEX model, is presented as a flow chart. Only three core components are depicted in the model. When compared to the United Way paradigm case, it can be noted that Figure 5.22 is missing a listed *activity* component, but the component content is present under the label of *outputs*. The *activities* and *outputs* have been integrated. This format is a pared down version of the full UWEX model as discussed in Type 2 (Extended Linear Models). As mentioned, UWEX does not have one standardised format that is used consistently. This may be viewed as flexible or confusing, depending on whether you are the agency that requires the model or the organisation required to use the model.

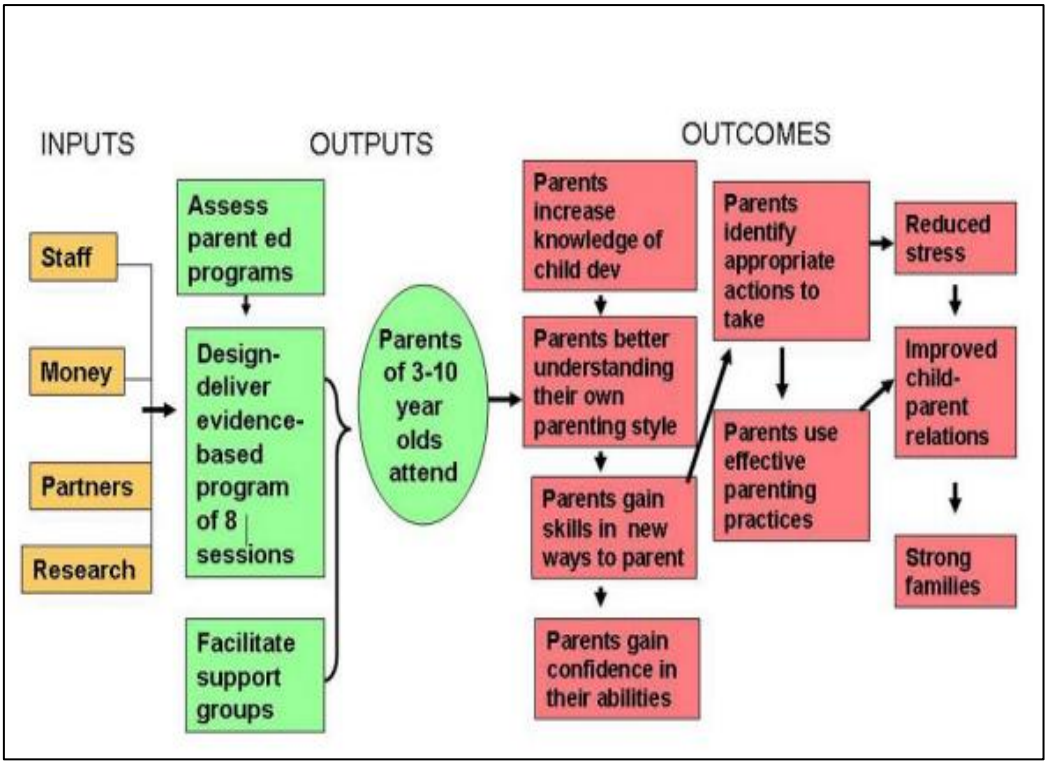


Figure 5.22: Type 5_UWEX (2008:44)

Figure 5.23 from Anderson *et al*. (2006) is tabular in format. In this model the *output* component has been omitted. The oversimplification of the structure of intervention in the Type 5 logic model may be a reason for its lack of popularity.

Inputs	Activities	Outcomes
1. Committed community advisory group[b] 2. PRC capacity: • Core expertise and resources[c] • Faculty and staff diversity[c] • Faculty and staff sensitivity to community issues • Facility • Communication and data systems 3. Relationships with community partners, other PRCs, and the Centers for Disease Control and Prevention[c]	1. Community engagement[c] 2. Establishment of research agenda[c] 3. Core and other research using sound research methods[c] • Testing of innovative strategies[b] • Active dissemination of research findings[c] • Training[c] • Technical assistance[c]	1. Translation of research to practice[b] 2. Research and other publications[b] 3. Widespread knowledge of effective interventions[b] 4. Relationships and recognition[c] 5. Trust[b] 6. Widespread use of effective interventions[b]

Figure 5.23 Type 5_Anderson *et al.* (2006:9)

Discussion

Size: Type 5 is a small category with only 5 exemplars.

Key source: The key source for this grouping was articles.

Main format: It contained two types of formats – three flowcharts and one table.

Comments: What is interesting about the nature of these categories is that whereas Type 2 has an extended number of components, Type 5 (Truncated Linear) is the opposite with components that have been pared down. The models in Type 9 and 10 are connected to these Type 5 models as all three categories have a reduced number of components. Whilst Type 5 contained 3 or fewer paradigm components, Types 9 and 10 generally have no labelled components and take the format of outcome chains.
Type 5 has few exemplars and the modifications made to the paradigm case have not added any value in this case. The rationale for other modifications (e.g. Type 2) was understandable and useful but Type 5 modifications seem to have no clear rationale. This category may be sparsely populated for just this reason.

TYPE 6: EXTENDED HYBRID LINEAR MODEL

Definition:

In this grouping all models have the three or fewer paradigm case components with additional components which extend the causal chain.

Category Overview

Number of models in this category	**16**
Number of flowcharts	12
Number of tables	3
Number of narrative	1

Sixteen logic models were classified as Type 6 models. Twelve are flowcharts, three are tabular in format and one is a narrative. Eleven of the flowcharts, one table and the narrative omit the *outputs* component, as shown in Figure 5.24. The figure on the right first shows 3 clusters of staff activities with an arrow indicating a vertical progression. This feature which is not often seen in models is useful as it shows a logical progression in activities – a vertical alignment. This is then followed by a cluster of participant activities. This split has been labelled as *input* and *activities* in other models.

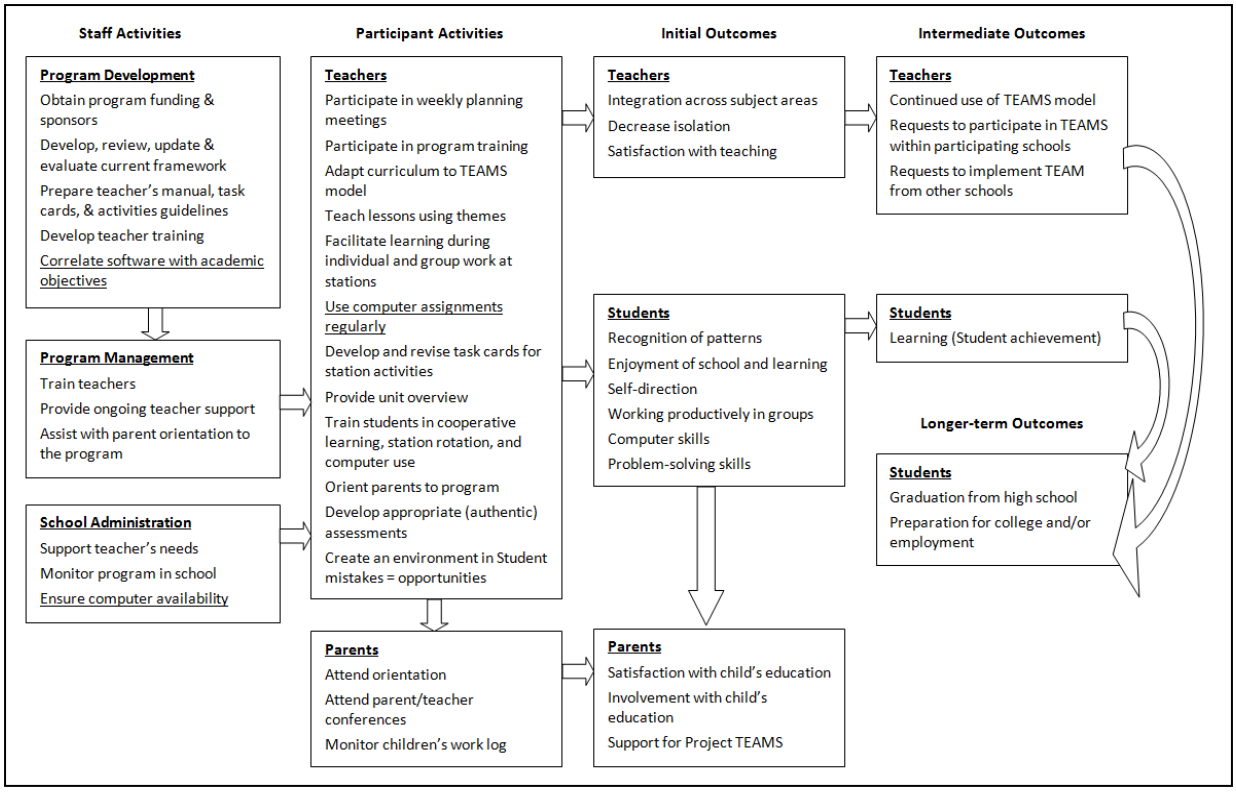


Figure 5.24: Type 6_Cooksy et al (2001:121)

Closer inspection of the other models in this category reveals that the *outputs* have not been absorbed into *activities* or short-term *outcomes,* as is sometimes the case. *Outputs* are simply not included.

One possible reason for this is that the developers intended to construct a model that approximates an outcome chain. Outcome chains often include an *activity* (at times not labelled as such) and then a series of *outcomes*. The models in this category are not quite outcome chains – in format or content - as none of the flowcharts in this category have an extended outcome chain, which is the signature of outcome chains. The only model that has a slightly developed outcome chain is a flow chart from Porteus, N.L., Sheldrick, B.J. and Stewart, P.J. (2002:131).

The narrative shown in Figure 5.25 is divided into *inputs*, *processes*, individual *outcomes* and societal *outcomes*. Not all the content is correct – the second "process" regarding the "tolerant attitude" is a condition rather than an *activity* or process. That aside, the developer, through the three *outcomes* for both individuals and society, has attempted to show the ripple of cause and effect from the initial *inputs* through processes to individual and societal *outcomes*.

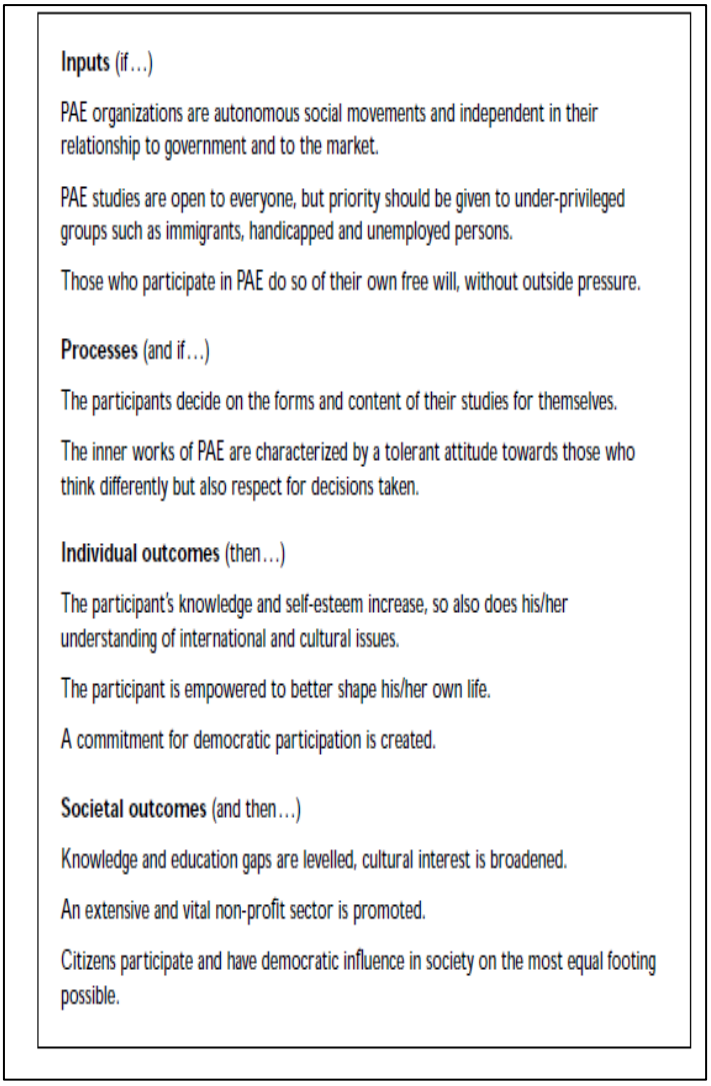


Figure 5.25: Type 6_Lindgern (2001:296)

The three remaining models that contain *outputs* are a flowchart by Adler M.A. (2002:207) and tables by Stewart, D., Law, M., Russel, D. and Hanna, S. (2004:456) and Morzinski, J.A. and Montagnini, M.L. (2002:569).

The first two models replace the term *activities* with *components* and the Adler (2002:207) model includes *activities* under the *inputs* column. While all these models approximate outcome chains in some way, none quite meet the criteria fully. The models in this category have been labelled Type 6 as they were missing one paradigm component (*outputs* in thirteen and *activities* in two) but include additional components through the extension of the causal chain. The five ways in which the models are extended are summarised in Table 5.2.

Table 5.2: Methods of extending models which have three core components or fewer

Method	Models
Disaggregating outcomes (outcomes are divided into different time frames)	Bickel 1986:23 in Wholey, J. (1987:88); Bryant and Bickman 1996:123 in Weiss, C. (1997b:48) Lindgern, L. (2001:296); Cooksy, L.J., Gill, P. and Kelly, P.A. (2001:121); Adler M.A. (2002:207); Huhman, M.,Heitzler, C. and Wong, F. (2004:2); Golman, K.G. and Smalz, K.J. (2006:10); Gugiu, P.C. and Rodriguez-Campos, L. (2007:347); Sitaker, M., Jernigan, J., Ladd, S. and Patanian, M. (2008:3); Lando *et al.* (2006:2); Stewart, D., Law, M., Russel, D. and Hanna, S. (2004:456); Harvard 1999:2
Disaggregation of agency (implementing partners are shown with their particular tasks)	Wholey, J.S and Wholey M.S. (1981a:111-113) in Wholey J.S. 1987:83
Adding *target group*	Adler M.A. (2002:207)
Adding *impact*	Morzinski, J.A. and Montagnini, M.L. (2002:569)
Adding *problems* and *impact*	Adler M.A. (2002:207)

Discussion

Size: Type 6 is a medium-sized category and contains 16 exemplars.

Key source: The key source for this grouping was articles. There was only one model from a manual (Harvard 1999:2)

Main format: Type 6 models are in three types of formats – flowcharts, tables and a narrative. The most frequent format is a flowchart.

Comments: Most of the models (thirteen of the sixteen) have pared down the paradigm component of *outputs* and *activities,* and then extended the model with additional components. As in Type 2, the key method of extending the causal chain is through disaggregation of the outcomes and this occurs in 12 of the 16 models.

An examination of the models showed that the extension of the causal chains of the models occurred through 5 key ways

- Disaggregating *outcomes* (outcomes are divided into different time frames)
- Disaggregation of agency (implementing partners are shown with their particular tasks)
- Adding *target group*
- Adding *impact*
- Adding *problems* and *impact*

The extension of the causal chain which occurred in Type 6 models can be depicted in the following way:

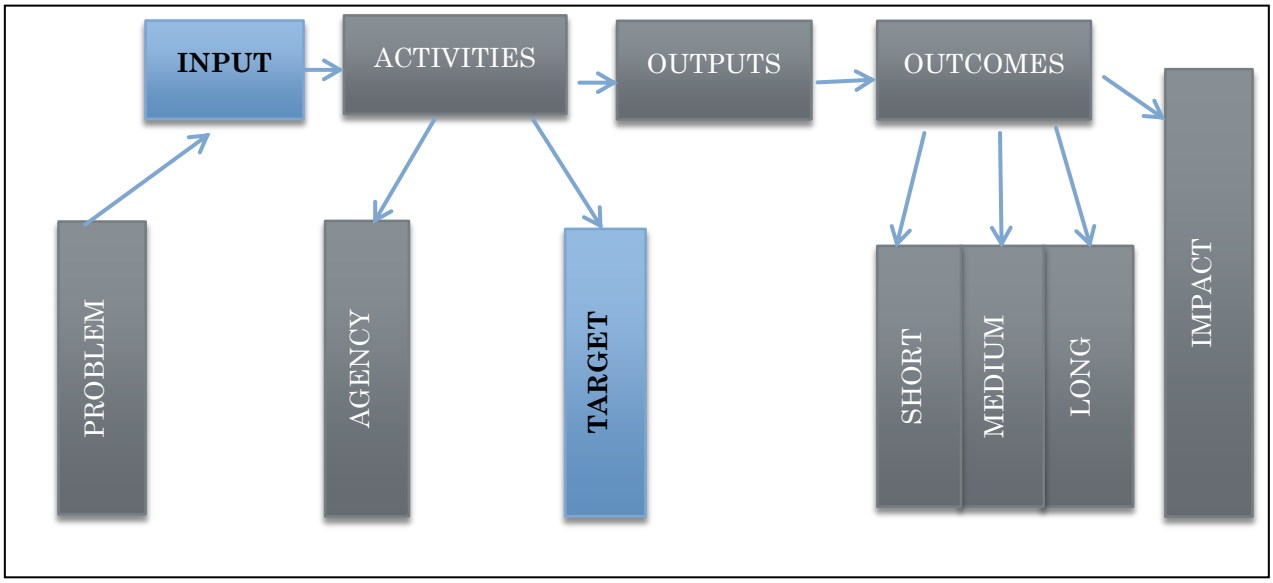


Figure 5.26: Extension of the causal chain in Type 6 LMs

The modifications to the paradigm case are useful.

TYPE 7: ELABORATED HYBRID NON-LINEAR MODEL

Definition:

In this grouping the model has the three or fewer paradigm case components, with additional components that provide more detail on case components in a non-linear format.

Category Overview

Number of models in this category	1
Number of flowcharts	1
Number of tables	0
Number of narrative	0

The model shown in Figure 5.27 is the only one in this category. The distinctive aspect of this model is its non-linearity. The components of Figure 5.27 only contain one term which matches the United Way model exactly i.e. *outcomes*. The rest of the components are elaborations of activities (*Interventions* and *Provider Practices*). O*utcomes* have been disaggregated into utilisation and quality of life *outcomes*. Feedback loops will be discussed in more detail in Type 10, where models containing outcome chains with feedback loops are discussed.

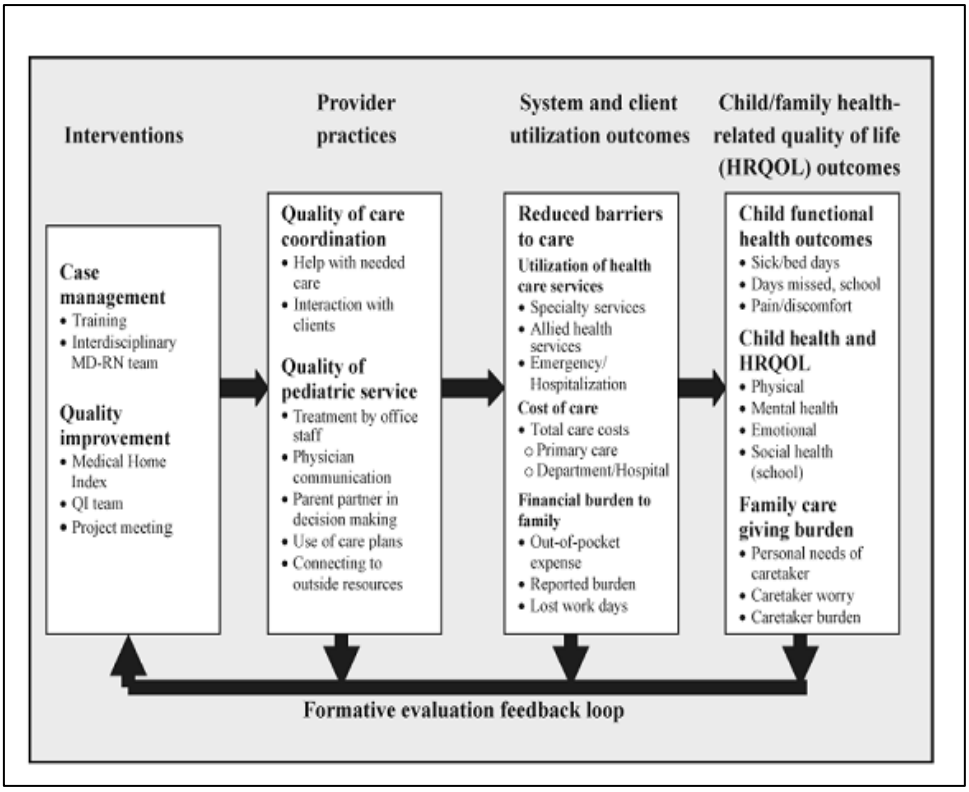


Figure 5.27: Type 7_Livingood et al (2007:E4)

Discussion

Size: Type 7 is a small category consisting of only one model.

Key source: The key source for this grouping was an article. There was only one model that fitted this category's criteria.

Main format: It contains one flowchart.

Comments: This model is unusual and it could even be argued that it should be removed from the typology completely, but its use of a feedback loop, perhaps even cosmetically – makes it interesting. There is only one other category in the typology, Type 10, that includes non-linear models. When the typology was being developed, each of the types had an associated non-linear counterpart. As the typology developed and these categories were not populated at all, they fell away. This type of model, as well as the other non-populated categories may very well be used by practitioners in the field, as feedback loops are particularly popular in depicting more complicated and complex programmes. This type has been retained in the typology despite the single example as

it is a reminder that LMs take on the challenge of representing non-linearity in formats which are not always amenable to do so. The more complex programmes are often not well represented in model format.

TYPE 8: EXTENDED AND ELABORATED HYBRID LINEAR

Definition:

In this grouping all models have three or fewer paradigm case components with additional components that extend the causal chain in a linear format AND provide more detail on case components.

Category Overview

Number of models in this category	**7**
Number of flowcharts	5
Number of tables	2
Number of narrative	0

There are seven models in this category – five are flowcharts and two are tables. This grouping of models contains three or fewer paradigm components and then these core components are either elaborated on or extended. The most common component across the models is *outcomes*. This is also the component that is most often extended (Auditor General of Canada 1981:14 in Weiss C.H,1997:49)[86]; Humphreys, J. *et al*. (2010:9) and Alter C & Egan M (1997:98). The latter also adds in the component of *problems*.

The components that are elaborated on are *activities* – with the use of *target group* (Den Heyer, M. 2001:4). Den Heyer also elaborates her model with *indicators* and *modifications* to each of the components. *Performance measures* are added into the model by Harvard (2009:9) whilst *programme components* precede *activities* in Porteus, N.L., Sheldrick, B.J. and Stewart, P.J. (2002:120).

[86] These were called objectives/effects in this model.

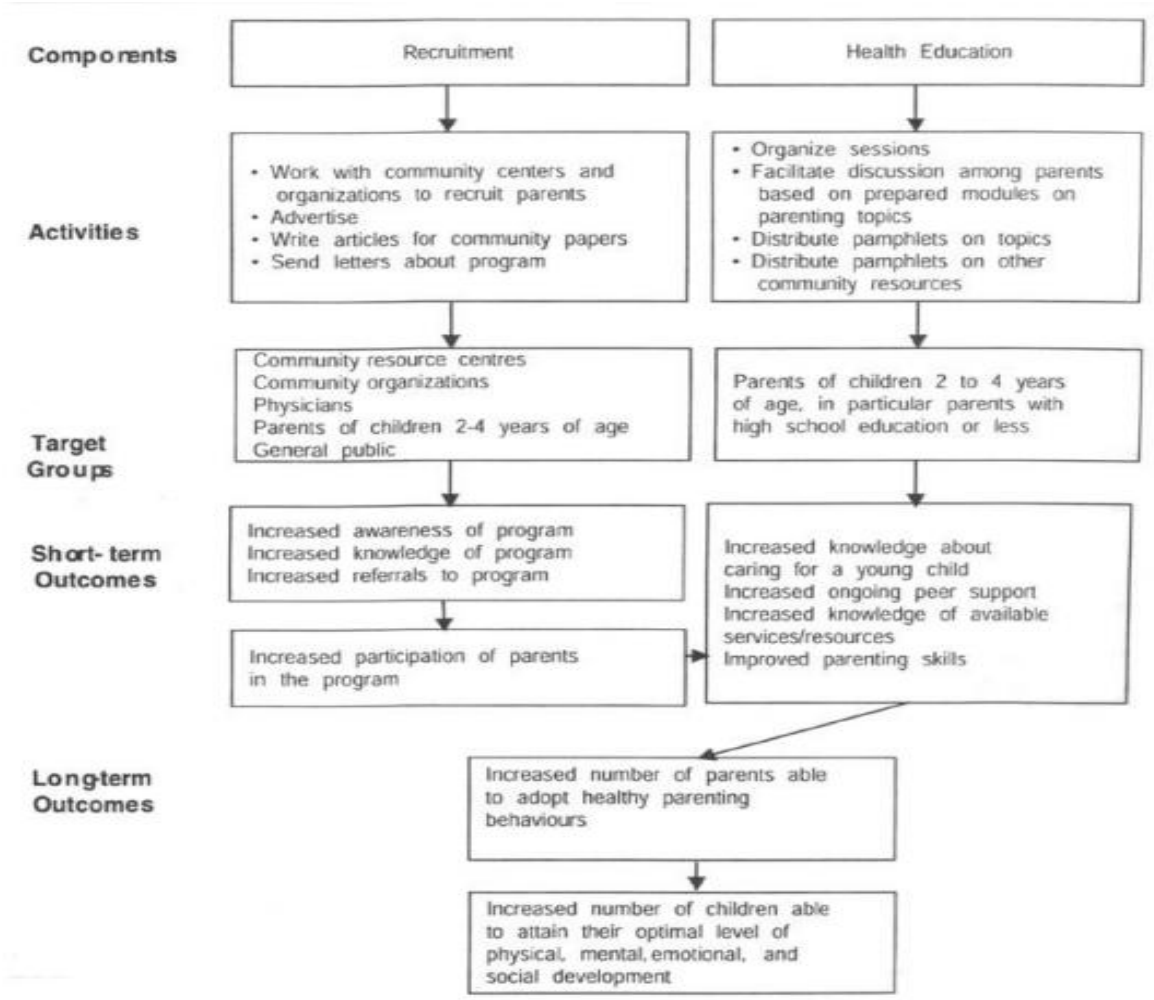


Figure 5.28: Type 8_Porteus *et al* (2002:120)

Discussion

Size: Type 8 is a small category with only 7 exemplars

Key source: The key source for this grouping was articles. The Harvard manual was the only manual in this grouping.

Main format: It contained two types of formats – five flowcharts and two tables.

Comments: Models extend the causal chain through the disaggregation of *outcomes*, and by adding *impact*, *problems* and *target groups*. They elaborate components using *indicators, performance measures, contextual factors, strategies.* This extension and elaboration can be shown in the following way:

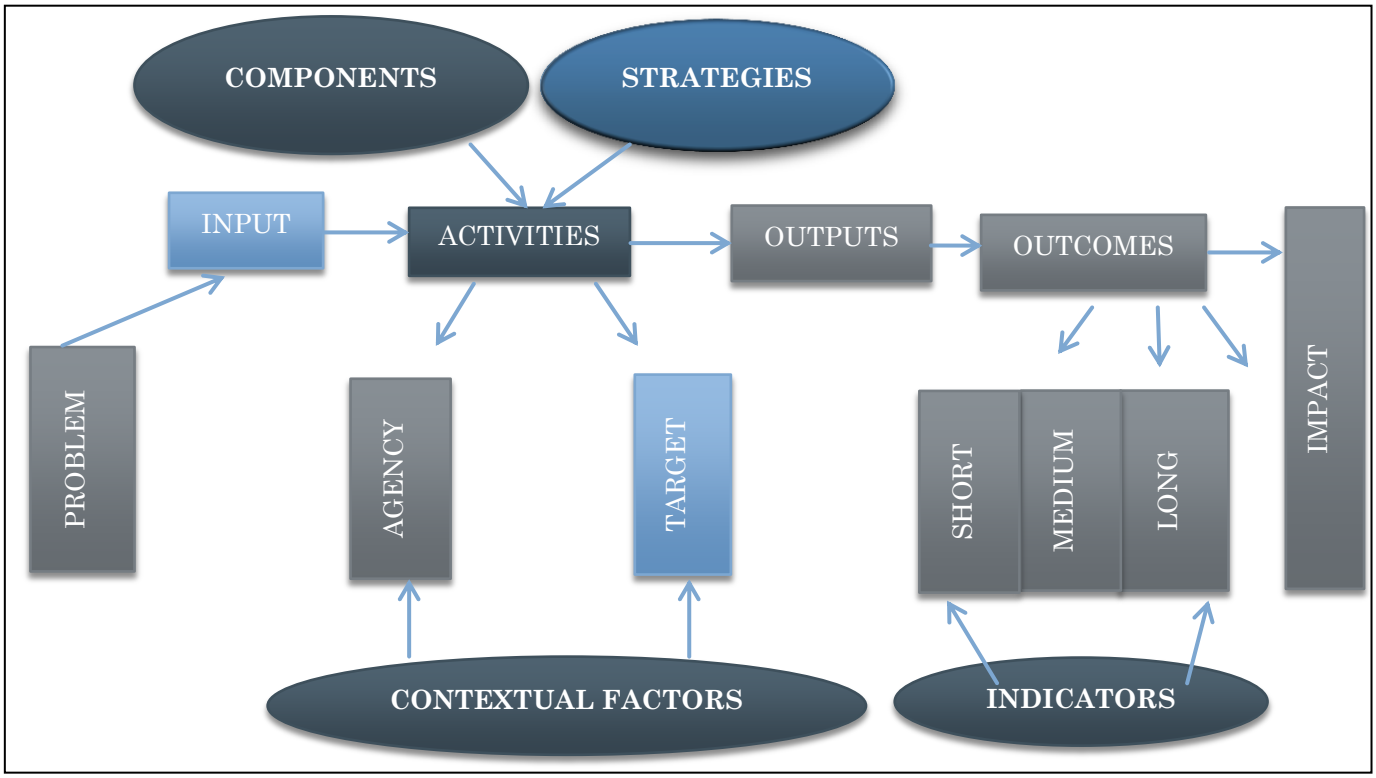


Figure 5.29: Extension of causal chain in Type 8 LMs

This category has only a few exemplars. The modifications to the paradigm case can be seen as useful. The modifications to the paradigm model show that the LM is being used beyond planning and design of projects and the inclusion of indicators show that the model is now being used for monitoring and evaluation.

TYPE 9: NO DESIGNATED COMPONENT LINEAR

Definition:

In this grouping all models no paradigm case components have been identified/labelled and models have a linear format

Category Overview

Number of models in this category	**31**
Number of flowcharts	31
Number of tables	0
Number of narrative	0

Both Type 9 and 10 contain outcome chain models which are described by Funnell and Rogers (201:242) in the following way:

> Outcomes chain logic models which show a sequence of results leading to the ultimate outcomes or impacts of interest, were used in the first examples of program theory. (Kirkpatrick,1959; Suchman, 1967; Weiss, 1972)

An outcome chain model (the format of which is shown in Figure 5.30) was first developed by Weiss (1972:50) and is either linear, as shown in Type 9, or non-linear as shown in Type 10.

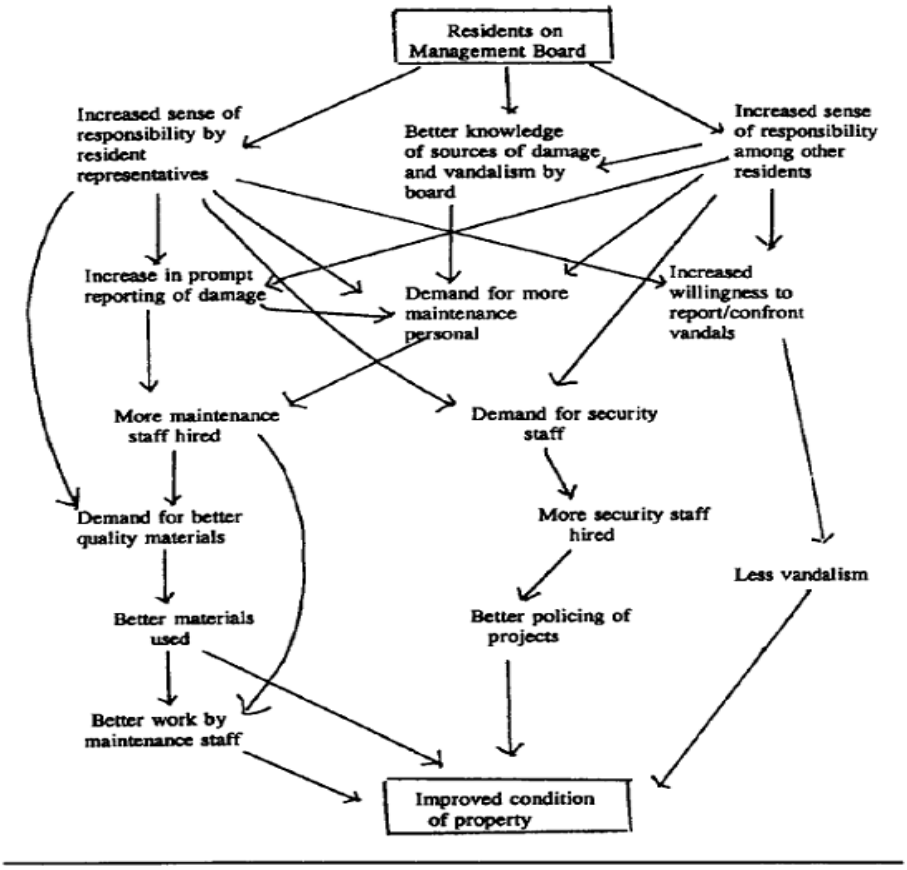


Figure 5.30: Type 9_Weiss, C. (1997a:504)

Coryn *et al.* (2008:201-202) when describing models as either "linear" or "non-linear" explain that the latter are intended "to integrate systems thinking in postulating program theory, taking contextual and other factors that sometimes influence and operate on program processes and outcomes into account" (Coryn *et al.* 2003:202). Virtually all models in this grouping do not have labelled or identified paradigm components but one model by Tucker *et al.* (2006:2) labels some components of the model and includes a reference to the external environment.

Figure 5.3.1., a logic model presented in Adams & Dickinson (2010:424), uses a similar format to that of Weiss – thirteen years later. This is an indication of Weiss' influence on logic modelling which is still evident today.

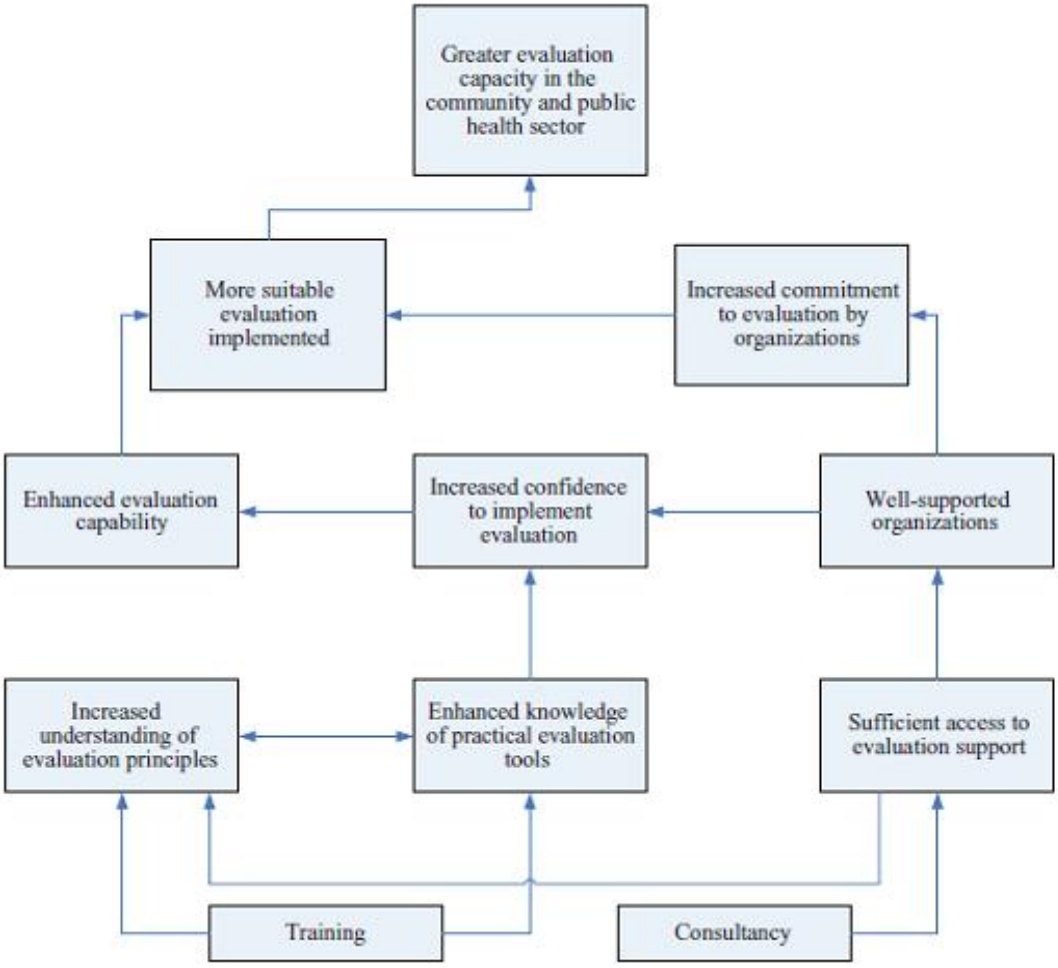


Figure 5.31 Type 9_Adams J. and Dickinson P (2010:424)

Type 9 is the second largest grouping in the typology and contains 31 models. All the models (except Tucker et al) do not identify the paradigm components (but they are often present – especially *activities* and *outcomes*) and all are linear. The models were called a variety of names. For example:

- Logic model - Hawkins, *et al.* (2009:32); Tucker *et al.* (2006:2); Reed and Brown (2001:292)
- Program theory - Weiss. (1997a:504); Donaldson and Gooler (2003:358);
- Mercier *et al.* (2000:2)
- Program logic – Leeuw (2003:10)
- Theory driven model – Turnbull (2002:277)
- Chain of reasoning - Torvatn (1998:76)
- Logic model map - Page (2009:79).

The names are not the only elements of these models that differ from one another. They also differ greatly in terms of level of detail, elements, structure and direction of flow.

Below are some examples which show the range of formats:

Very little detail	Detailed
Monroe *et al.* (2005:64) Camasso *et al.* (2004:47) Julian and Clapp (2000:206) Donaldson and Gooler (2003:358)	Leeuw (2003:10) Weiss (1997a:504) Hawkins *et al.* (2009:34) Page M (2009:79)
Inclusion of geometric shape	**Text and arrows**
Tucker *et al.* (2006:2) Mc Graw *et al.* 1996 in Weiss (1997b:50)	Duignan, P. (2004:9) Weiss, C. (1997a:504) Reed, C.S. and Brown, R.B. (2001:292)
Some labelling within models	**No labels within models**
Goodson *et al.* (2006:264) Tucker *et al.* (2006:2) - phases of projects Carvalho, S. and White, H (2004:145) - level of project	Aspen Institute (no date p 32) Adams and Dickinson (2010:424) Torvatn, H. (1998:79).

Discussion

Size: This is a large category with 31 exemplars

Key source: The key source of these models was articles. Only one manual – from the Aspen Institute which deals with theories of change is included.

Main format: It contains only one type of formats – flowcharts.

Comments: This is the second largest grouping of models (after Type 2) and contains what is often termed as outcome chains. These models either do not use any labelled components of the United Way case although these may be included in the model. A few use labelled components other than the core paradigm components. The general format of the models is to simply show the linkages between an intervention and the reactions to it.

It is interesting to note that the two most popular types of models are those with extended paradigm case components (Type 2) or very few labelled components (if

labelled at all). These two types can be seen to be linked broadly to Funnel and Rogers (2011) pipeline and outcome chain formats. The other types in this typology are subsidiary types of these two main formats.

TYPE 10: NO DESIGNATED COMPONENT NON-LINEAR

Definition:

In this grouping all models no paradigm case components have been identified/labelled and models have a non-linear format

Category Overview

Number of models in this category	**7**
Number of flowcharts	7
Number of tables	0
Number of narrative	0

As in Type 9, there are only flowcharts in this category. These take the same format as Type 9 and are outcome chains. The only difference is that these models include feedback loops, as is shown in Figure 5.32.

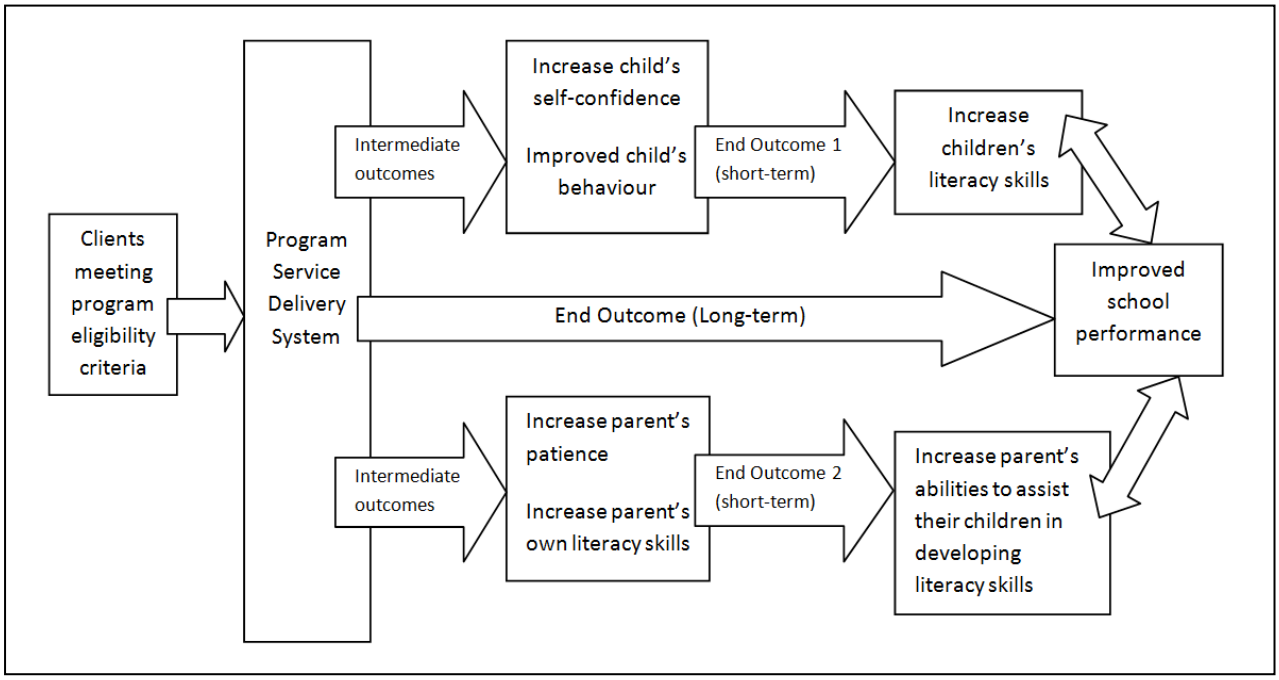


Figure 5.32 Type 10_Unrau, Y.A. (2001:359)

The seven models are listed below

1. Brousselle, A., Lamothe, L., Mercier, C. and Perreault, M (2007:101)
2. Friedman, J. (2001:168)
3. Randolph J. and Eronen P. (2007:58)
4. Rogers P (2008:41)
5. Trochim,W.M., Marcus, S.E., Masse, L.C., Moser, R.P. and Weld, P.C (2008:14)
6. Unrau, Y.A.(2001:359)
7. Weiss, C. (1997b:50).

Discussion

Size: This is a small category with only seven exemplars.

Key source: Type 10 consists of models found only in articles.

Main format: Flowcharts.

Comments: This category should in theory be a large category as it contains the types of models which fall into Type 9 which is a large category. The use of the feedback loops is the only distinguishing feature from the large Type 9 category. But as with the only other category to include feedback loops (Type 7) this category has few exemplars. One explanation is that developers of LMs struggle to include this concept.

5.3 Section 2: Logical Frameworks

There are fewer variations in logical frameworks (LFs) than in logic models (LMs) – there were seven variations noted with regard to LMs while LFs have five. These are variations in:

1. Format – models can have anywhere between 12- 20 blocks, but all LFs will be in a matrix
2. Terminology – whether components are called Goal/Development Objective /Overall objective
3. Definitions of components – whether Inputs consist of Resources or Resources and Activities
4. Number of components – these can range between 12 – 20
5. Direction of flow – this is sometimes indicated through numbering, and in one model there are arrows

5.3.1 Typology of models

In this section, a typology of LFs is presented which is based on two paradigm cases. This is unlike the LM which is based on only one model – the United Way model (1996a:vii).

The use of two paradigm cases occurred as the review of the models pointed to two fairly distinct groupings of models, based on the vertical components of the LFs. This distinction resulted in a typology of **two** major types, with some derivative sub-types. The first – and most frequently occurring type of LF model can be traced to the original USAID model (1980:59).

The second main type of LF model is exemplified in the NORAD model (1990:17). In both instances, subsequently identified derivative or subsidiary types of these two original models were found. These sub-types resulted from relatively small variations from the original model types. Although, the LF typology has two paradigm cases, these two types are in fact also not that different. Differences amongst the LFs overall can be seen in degrees rather than in absolutes. This makes for a much tighter knit family of models than those found in the LM typology.

Table 5.3 lists the five types of LFs in the typology. Essentially there are two major groupings – Type 1 which refers to the USAID (1980:59) model and Type 2 which refer to the NORAD (1990:17) model.

Table 5.3 Typology of logical frameworks

Type	Name	Description
1	**Standard Type 1**	4 vertical components: Goal, Purpose, Outputs and Inputs(or Activities) 3 horizontal components: Objectively Verifiable Indicators (OVIs), Means of Verification (MOVs) and Assumptions
1a	**Extended Type 1**	4 Type 1 vertical components with additional components which extend the causal chain
2.	**Standard Type 2**	5 vertical components: Development objective, Immediate Objective, Outputs, Activities, Inputs 2 horizontal components: Indicators (Includes MoVs), External Factors
2a	**Elaborated Type 2**	5 Type 2 vertical components with additional components which provide more detail on horizontal components
2b	**Extended and elaborated Type 2**	5 Type 2 vertical components with additional components which extend the causal chain and provide more detail on horizontal components

Within these two main types a small number of derivative or sub-types are presented: Type 1 models match the USAID (1980:59) model. Type 1 includes models that use the term *activities* instead of *inputs*, as the USAID definition of *inputs* includes *activities*. Type 1a has additional components which extend the vertical components. The same principle applies to the Type 2 models.

Type 2 models are an exact match for the NORAD (1990:17) model. Type 2a and 2b have additional components. Type 2a elaborates on the horizontal components, and Type 2b adds to both the vertical and horizontal components of the Type 2 model.

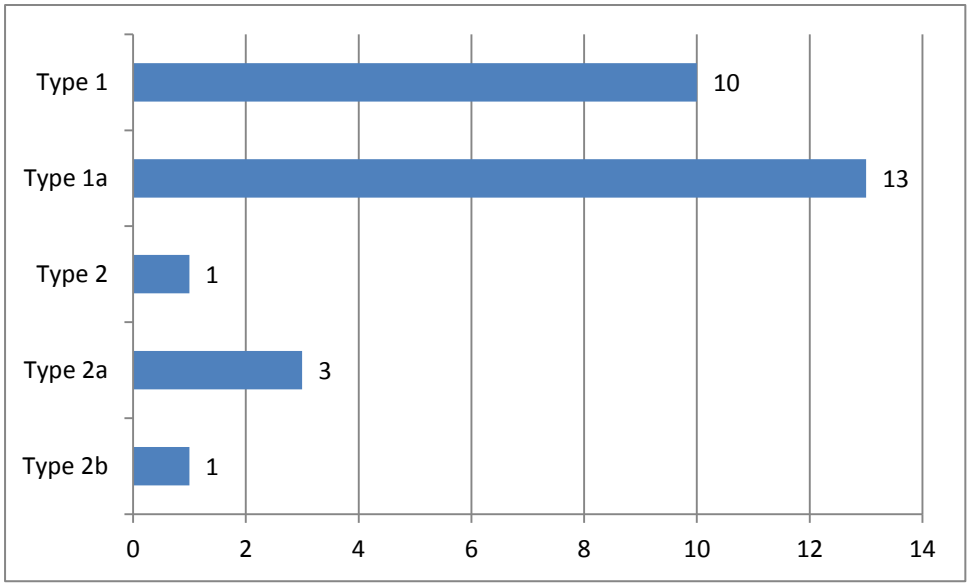


Figure 5.33: Spread of LFs in each Type n=28

Figure 5.33 shows the spread of models across the LF typology, and indicates that Type 1a contains the largest number of models (13). This is followed by Type 1 models (10). Overall the Type 1 category comprises 23 models and Type 2 is made up of the other 5 models.

It is important to note that all the LFs are in the format of a matrix, although the number of blocks may differ from model to model.

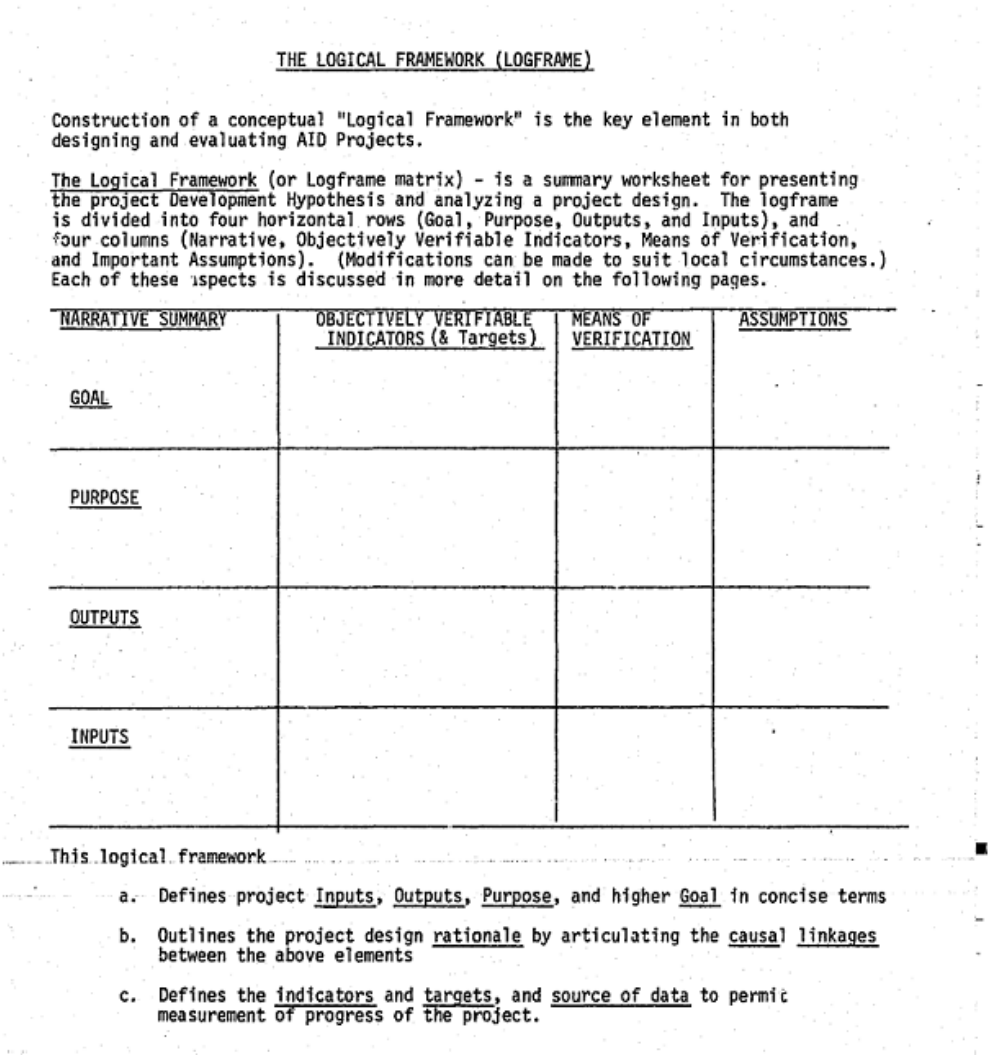
Each of these types will be now discussed in more detail.

LF TYPE 1: STANDARD MODELS

Definition:

In this category all models match the USAID (1980:59) case and have the Vertical components: *Goal, Purpose, Outputs* and *Input (or Activities)* and the Horizontal components: *Objectively Verifiable Indicators (OVIs), Means of Verification (MOVs)* and *Assumptions.*

The definition above is a description of the paradigm case for this category and all Type 1 models. The USAID model (1980:59) is shown in Figure 5.34 and is from the original manual. The manual contains not only guidance on the construction LF but "outlines the systems used by the United States Agency for International Development (AID) to formulate and subsequently evaluate its projects for economic and social development in various developing countries" USAID (1980:i). Consequently, it is extremely comprehensive and reads in part like an administrative handbook, and in part like a research methods text book with detailed sections on data collection and analysis.



THE LOGICAL FRAMEWORK (LOGFRAME)

Construction of a conceptual "Logical Framework" is the key element in both designing and evaluating AID Projects.

The Logical Framework (or Logframe matrix) - is a summary worksheet for presenting the project Development Hypothesis and analyzing a project design. The logframe is divided into four horizontal rows (Goal, Purpose, Outputs, and Inputs), and four columns (Narrative, Objectively Verifiable Indicators, Means of Verification, and Important Assumptions). (Modifications can be made to suit local circumstances.) Each of these aspects is discussed in more detail on the following pages.

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS (& Targets)	MEANS OF VERIFICATION	ASSUMPTIONS
GOAL			
PURPOSE			
OUTPUTS			
INPUTS			

This logical framework

a. Defines project Inputs, Outputs, Purpose, and higher Goal in concise terms

b. Outlines the project design rationale by articulating the causal linkages between the above elements

c. Defines the indicators and targets, and source of data to permit measurement of progress of the project.

Figure5.34: LF Type 1_USAID (1980: 59)

Just as the LM paradigm case from United Way was the simplest form of all LMs, so the USAID model is the simplest of all LFs. It has four vertical components, which can be seen as equivalent to the core components of the Standard Linear (LM Type 1) which represent the causal chain of the project. The three horizontal components of LF Type 1 models can be viewed as equivalent to elaborations of LMs seen in LM Types 3, 4, 7,and 8.

Vertical components

The first thing to note about the LF vertical components is that they work in the opposite order to LM core components of Standard Linear (LM Type 1) models, that is, while the four core components in the United Way logic mode (LM Type 1) are ordered *Inputs – Activities – Outputs- Outcomes,* LF components in the LF Type 1 are ordered *Goal – Purpose-Outputs –Inputs*. The causal chain flows in the opposite direction. In addition, LMs generally move from left to right, while LFs generally move from the top down.

The USAID manual (1980) provides definitions for the four vertical components. These are shown in Figure 5.35 and each will be discussed in turn.

VERTICAL COMPONENTS

GOAL

"Goal" is a general term characterizing the programming level beyond the project purpose – i.e. the next higher objective to which the project is intended to contribute. The Goal is the reason for dealing with the problem, which the project is intended to solve." (USAID 1980:62)

PURPOSE

The project purpose is the specific result desired of the project. A well-conceived project should have an explicitly defined purpose that contributes to the goal. In turn, the combined project outputs should contribute to the achievement of the project purpose (USAID 1980:62)

OUTPUTS

Project outputs are the specific results expected to be produced by project inputs. The outputs may be physically quantitative such as "kilometers of rural road built"; qualitative, such as "Farmer cooperative functioning effectively"; or behavioral, such as "increased awareness of and receptivity to employment of paramedical personnel". (USAID 1980:67)

INPUTS

Inputs are those things provided by USAID, the cooperating country, and/or other donors, with the expectation of producing specific, definable outputs. The inputs are usually various combinations of personnel, supplies and equipment, training, funds, contract services etc. (USAID 1980:67)

Figure 5.35: Definitions of vertical components (USAID (1980: 62, 67)

The USAID definition of the *Goal* component moves beyond the programme boundaries and is linked to the problem being addressed. The *Goal* component is described as functioning at a higher level than that of the *Purpose* component. A linkage or reference to the component below the component being discussed occurs in each of the definitions. This is done to reinforce the causal chain – even if the logic seems to be moving in a counter-intuitive manner.

The use of the phrase "higher objective" in the definition is ironic, as the use of "*Development Objective*" instead of the term *Goal* which divides LFs into the two key categories in the typology. It was NORAD (1990:17) which first utilised the term *Development Objective*, which was subsequently imitated by other organisations. This group of organisations and their models is discussed under Type 2.

The USAID definition of *Purpose* describes it as the" specific result of the project". The use of the term "results" is not optimal as the definition of outputs also includes the term "*outputs*" - "the specific results expected to be produced by project inputs". The use of the term "results" is "loose" in that it is not specific enough, and as it is used at two different levels, can lead to confusion.

In contrast, *Inputs* is defined in terms of USAID itself ("Inputs are those things provided by USAID"), which over-specifies the definition in a way that is limiting. USAID could not have known not at the time that they were developing the prototype for many other organisations. In an example provided in the manual, the *inputs* include "training for paramedics". As this is an *activity*, models which had "activity" as their fourth component were included in Type 1. This slippage in this component opened the door for those using the model to replace "input" with "activity" and remove the overwhelming presence of the funder in the initial definition of inputs.

Gasper (2001:3) describes the USAID model in the following way:

> It had no Activities level between Inputs and Outputs; Inputs formed the bottom row and so the narrative summary read Inputs-Outputs-Purpose-Goal; and indicators were required for Inputs too. Assumptions referred to the linkages between a level and the one above rather than the one below. There were no other significant differences from the current European format.

The "current European format" that Gasper refers to is the European Commission's LF which was being used in 2001, at the time he was writing. The commission's model had "activities" instead of "inputs" as its fourth component. This replacement occurred in five of the eight models in Type 1.

The DFID model has changed "*inputs*" to "*activities*" and *OVI* to "*indicators of achievement*". It hasThere are nine LFs that are classified as Type 1. Three of them are exact replicas of the paradigm model (den Heyer, 2001; Gargani, 2003; Gasper, 2009). The other four have slight modifications.These models keep the 4x4 format and approximate the components of the paradigm case, but there are modifications both in terms of labelling of components (terminology) and in the definitions of components.

Project Structure	Indicators of Achievement (See 5.6)	Means of Verification (See Box 9)	Important Risks and Assumptions (See Box 8)
Goal What are the wider objectives which the activity will help achieve? Longer term programme impact	What are the quantitative measures or qualitative judgements, whether these broad objectives have been achieved?	What sources of information exist or can be provided to allow the goal to be measured?	What external factors are necessary to sustain the objectives in the long run?
Purpose What are the intended immediate effects of the programme or project, what are the benefits, to whom? What improvements or changes will the programme or project bring about? The essential motivation for undertaking the programme or project.	What are the quantitative measures or qualitative judgements, by which achievement of the purpose can be judged?	What sources of information exist or can be provided to allow the achievement of the purpose to be measured?	What external factors are necessary if the purpose is to contribute to achievement of the goal?
Outputs What outputs (deliverables) are to be produced in order to achieve the purpose?	What kind and quality of outputs and by when will they be produced? (QQT: Quantity, Quality, Time)	What are the sources of information to verify the achievement of the outputs?	What are the factors not in control of the project which are liable to restrict the outputs achieving the purpose?
Activities What activities must be achieved to accomplish the outputs?	What kind and quality of activities and by when will they be produced?	What are the sources of information to verify the achievement of the activities?	What factors will restrict the activities from creating the outputs?

Figure 5.36: LF Type 1_ DFID (2002: 47)

An exemplar from Type 1 which has slight modifications is shown in Figure 5.36. The DFID model, while keeping the basic USAID format, has changed some of the component labels. The changing of terminology is a common practice in the LFs, not only in Type 1, but throughout the typology also called "assumptions" "Important risks and assumptions". While the use of "activities" is a valuable modification of the

paradigm case the other changes are not as useful. The definition of *Goal* is now linked to *Activity* rather than the *Purpose*, and *Purpose* has been interpreted in a way that approximates *outcomes*, ("What are the benefits, to whom?"). "*Outputs*" retains its original meaning while *inputs* is not included in the model at all anymore. In the Type 1a which is discussed next, inputs is added to the LF on the right-hand side of the *Activity* block to allow for the inclusion of both components.

Other modifications in Type 1 models were:

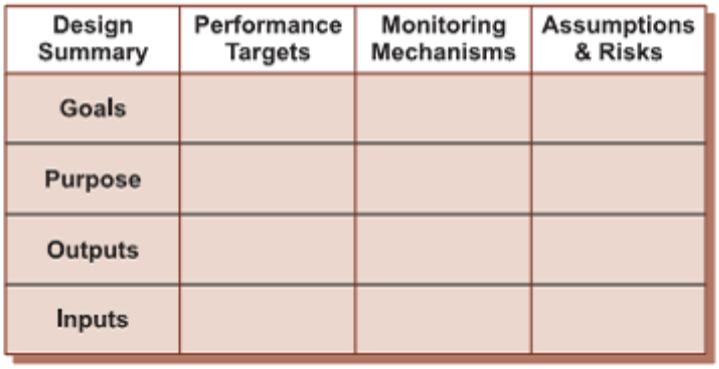
- *Outputs* – called *results* and *products*
- *Assumptions* – called *important assumptions* or *assumption and risks*

Horizontal components

The USAID horizontal components which can be seen as equivalent to the LM elaborations discussed in Section 1, are: *Objectively Verifiable Indicators (OVIs), Means of Verification (MOVs)* and *Assumptions*. The grouping of models that fall into this LF Type 1 category all have 3 horizontal components that match or approximate the USAID components. The exact matches are in den Heyer (2001), Gargani (2003), Gasper (2009), FAO (2001:39). There were slight changes in phrasing of OVIs in DFID (2003) and AusAid (2005:3) where *indicators* were not specified as "objectively verifiable".

More substantial changes to the horizontal components are evident in two other exemplars:

- *Performance indicators, data sources, assumptions and risks* - Social Impact in Gasper (2000:19)
- *Performance targets, monitoring mechanism and assumptions and risks* - Asian Development Bank (1998:4)



Design Summary	Performance Targets	Monitoring Mechanisms	Assumptions & Risks
Goals			
Purpose			
Outputs			
Inputs			

Figure 5.37: LF Type 1_Asian Development Bank (1998:4)

The model from the Asian Development Bank (Figure 5.37) has a clear emphasis on planning and monitoring. The term "monitoring mechanisms" shows this focus and is in contrast with other models which referred to evaluation or data collection, without specifying whether it this is for monitoring or evaluation purposes.

Discussion

Size: Type 1 is made up of 8 LFs.

Key source: Four models were found in LF manuals and four in articles.

Main format: 4x4 with 4 vertical and 3 horizontal components.

Goal	**Indicators (OVIs)**	**Means of verification (MOV)**	**Assumptions**
Purpose			
Outputs			
Inputs/Activities			

Comments:

The fact that the USAID paradigm case did not include activity had fairly wide ranging implications not only for Type 1 models but for LFs generally. Although *inputs*, by definition in the manual, allowed for *activities*, the label of *inputs* was simply too narrow for other developers. Thus in Type 1, half of the models developed simply leave *inputs*

out and replace this with *activity*. In Type 1a, the biggest grouping in the typology, developers have added *inputs* to the right-hand side of *activities*. This has its own repercussions in terms of the flow of the matrix, but allows for a distinction to be made between *inputs* and *activities* which is useful.

As LFs use only the matrix format, it may not clear to the reader or the person in an organisation tasked with developing a LF, how the logic and causal chain of the matrix works – the direction or flow of the matrix. The *Goal* is put first to ensure developers consider the end point first and then work backwards to the point of *inputs*, but to the uninformed or those without a manual or training for support this may not be obvious. In some of the other types in the typology a numbering system is used but in this category none of the models use a numbering system.

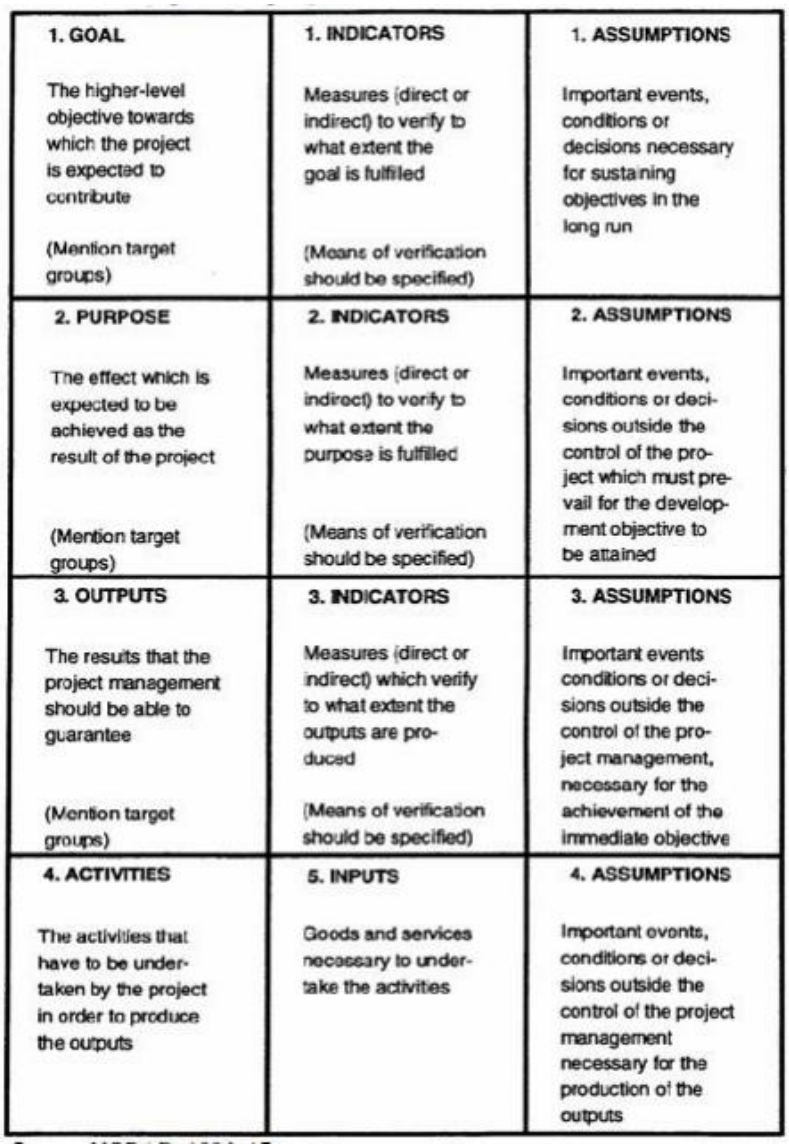
LF TYPE 1a: EXTENDED MODELS

Definition:

In this category all models have Type 1 vertical components with additional components which extend the causal chain.

This is the largest category in the LF typology and contains 12 LFs. In LF Type 1a models, the causal chain of the four basic components *(goal-purpose-output-inputs/activities)* is lengthened or extended by additional components. Unlike LMs which have four key methods of extension, the LF extension occurs through three key ways:

- Extending causal chain *to Goal –Purpose- Outputs-Inputs –**Activities**:* -Asian Development Bank (2007:11); Malawi Telecom (1990); NORAD (1996:17); UNHCR (1999:4); European Commission in Gasper, D. (2001:4); SIDA (2006:8); IFAD (n/d:14); World Bank (2005:16).



1. GOAL	1. INDICATORS	1. ASSUMPTIONS
The higher-level objective towards which the project is expected to contribute (Mention target groups)	Measures (direct or indirect) to verify to what extent the goal is fulfilled (Means of verification should be specified)	Important events, conditions or decisions necessary for sustaining objectives in the long run
2. PURPOSE	**2. INDICATORS**	**2. ASSUMPTIONS**
The effect which is expected to be achieved as the result of the project (Mention target groups)	Measures (direct or indirect) to verify to what extent the purpose is fulfilled (Means of verification should be specified)	Important events, conditions or decisions outside the control of the project which must prevail for the development objective to be attained
3. OUTPUTS	**3. INDICATORS**	**3. ASSUMPTIONS**
The results that the project management should be able to guarantee (Mention target groups)	Measures (direct or indirect) which verify to what extent the outputs are produced (Means of verification should be specified)	Important events conditions or decisions outside the control of the project management, necessary for the achievement of the immediate objective
4. ACTIVITIES	**5. INPUTS**	**4. ASSUMPTIONS**
The activities that have to be undertaken by the project in order to produce the outputs	Goods and services necessary to undertake the activities	Important events, conditions or decisions outside the control of the project management necessary for the production of the outputs

Figure 5.38: LF Type 1a_NORAD (1996:17)

This first type of extension occurs by disaggregating *inputs* into *activities* and *inputs* is predictable based on the interchanging usage of activities and inputs in Type 1 discussed earlier. This type of extension is shown in Figure 5.38 where *activities* are now clearly separated from *inputs*, which are now described as that which is "necessary to undertake the activities". It is also not by chance that this NORAD model has been chosen as an exemplar as it shows that NORAD shifted its position on the USAID (1980:67) LF structure and terminology and its second version of its LF follows the USAID format. NORAD's first version (1990:17) is the paradigm case for LF Type 2 models because of its distinctive terminology and format.

The first type of extension of the Type 1 model is reasonable, and certainly adds value to the development and reading of the model. We now examine the next type of extension:

- *Extending causal chain to Goal –Purpose-* ***Component Objective*** *- Outputs-Inputs –Activities:*
  AusAid (2000:2)

To understand the value of this extension it is important to examine the definitions within the AusAid (2000:2) logframe:

> Purpose: The development outcome expected at the end of the project. All components will contribute to this.
>
> Component objectives: The expected outcome of producing each component's outputs.

These definitions imply that AusAid is trying to accommodate complicated and complex programmes that may consist of many components and which all contribute to the overall purpose of the project. This is a useful disaggregation and the rationale for it is clear. What is interesting about these definitions, though, is the inclusion of the term "outcome", which shows a link to LMs, as this is not terminology usually associated with LFs.

The last form of extension was

- *Extending causal chain to Goal –Purpose- Outputs-Inputs* ***Outcomes- Impact***

The model which contains this extension is shown in Figure 5.39. This is an example of an extension that complicates more than assists the model. The causal chain in the matrix now forms a U shape and the column containing the extension is labelled "Expected Results", which seems like it should cover the first and second column. Arrows are included to guide the reader, but a restructuring of the model to allow for a visual extension of the model would have improved this model. It seems to be a blend of a LM and LF.

Narrative Summary	Expected Results	Performance Measurement	Assumptions/Risk Assessment
Project Goal (Country/ sectoral-level goal)	Impact	Performance indicators Qualitative and quantitative measures of results	Assumptions Risk assessment (high, low, medium)
Project Purpose Who is to be reached and what is to be achieved?	Outcomes Logical consequence of combination of outputs	Performance indicators Qualitative and quantitative measures of results	Assumptions Risk assessment (high, low, medium)
Inputs (Resources and activities)	Outputs Logical consequences of activities, required to achieve purpose	Performance indicators Qualitative and quantitative measures of results	Assumptions Risk assessment (high, low, medium)

MONITORING AND EVALUATION SYSTEMS

Figure 5.39: LF Type 1a_IFAD (2001:19)

Discussion

Size: This category has 13 exemplars in it.

Key source: The key sources were a manual and two articles.

Main format: There are three key formats for this type but the most frequent is:

Goal	Indicators OVIs	Means of verification MOV	Assumptions
Purpose			
Outputs			
Activities	Inputs		

Comments: The Extended Type 1 model still retains the fairly simple original format of Type 1. Extensions are carried out in three ways with two regarded as helpful and the other not. The most frequent way of extending models is by disaggregating *inputs* into *inputs* and *activities* (10).The teasing out of components in this category indicates that the developers of this group of Extended Linear models found the four core USAID components to be too limiting, and therefore unpacked components to include a greater level of detail.

Type 1a improved on the original Type 1 and made it more realistic and feasible.

LF TYPE 2: STANDARD MODEL

Definition:

In this category all models have Type 2 vertical components: Development objective, Immediate Objective, Outputs, Activities, Inputs and 2 horizontal components: Indicators (Includes MoVs), External Factors.

Discussion

Size: Type 2 is made up of 1 LF.

Key source: NORAD Manual (1990).

Main format: 4x4 with 4 vertical and 3 horizontal components.

Development Objective	Indicators (including Means of verification)	External factors
Immediate objective		
Outputs		
Activities	**Inputs**	

Comments:

There is only one model in this category and it is shown in Figure 5.40. The key distinctions between this and the LF Type 1a model is it terminology and format – the use of *Development Objective, Immediate Objective* and it has collapsed *OVIs and MOVs* into one column called *Indicators*. It has the extended format of the LF Type 1a model, but has a reduced number of horizontal components. Although this format was imitated by other models in the Type 2 grouping, NORAD itself returned to the Type 1a in the later version of this model (1999:17). This indicates that the terminology changes and collapsing of the horizontal components were not found useful.

1. DEVELOPMENT OBJECTIVE The higher level objective towards which the project is expected to contribute (Mention target groups)	1. INDICATORS Measures (direct or indirect) to verify to what extent the development objective is fulfilled (Means of verification to be specified)	1. EXTERNAL FACTORS Important events, conditions or decisions necessary for sustaining objectives in the long run
2. IMMEDIATE OBJECTIVE The effect which is expected to be achieved as the result of the project (Mention target groups)	2. INDICATORS Measures (direct or indirect) to verify to what extent the immediate objective is fulfilled (Means of verification to be specified)	2. EXTERNAL FACTORS Important events, conditions or decisions outside the control of the project which must prevail for the development objective to be attained
3. OUTPUTS The results that the project management should be able to guarantee (Mention target groups)	3. INDICATORS Measures (direct or indirect) to verify to what extent the outputs are produced (Means of verification to be specified)	3. EXTERNAL FACTORS Important events, conditions or decisions outside the control of the project management, necessary for the achievement of the immediate objective
4. ACTIVITIES The activities that have to be undertaken by the project in order to produce the outputs	5. INPUTS Goods and services necessary to undertake the activities	4. EXTERNAL FACTORS Important events, conditions or decisions outside the control of the project management, necessary for the production of the outputs

Figure 5.39: LF Type 2_NORAD (1990:17)

LF TYPE 2a: ELABORATED MODEL

Definition:

In this category all models have Type 2 vertical components with additional components which provide more detail on the horizontal components.

Discussion

Size: Type 2a has 3 exemplars.

Key source: Manuals

Main format: 5 vertical and 3 horizontal components.

Comments

Figure 5.41 shows the DANIDA model, which combines elements from Type 1 and Type 2. It uses the vertical components from the NORAD model (1990:17) and the horizontal components from the USAID model (1980:59). The other two examples were from GEF (2000:2) and SIDA (1996:15). The GEF model includes three elaborations in line with the *activities* block – *means, cost and pre-conditions*. The SIDA model also includes *conditions* but adds an additional second row labelled "*intervention logic*". This is not a helpful elaboration and is certain to confuse those tasked with completing this model, as it is unclear how this second row differs from the first. The SIDA model then uses the LF Type 1 horizontal components, just as in Figure 5.41 – the DANIDA model and a numbering system that does not help the reader, as the numbering only occurs in some of the blocks (the intervention logic and conditions). This model also ends up with an empty block in the top right hand corner. While the DANIDA elaboration is useful for both reader and developer the SIDA elaboration is not.

Project Element	Verifiable Indicator	Means of Verification	Assumptions
Development Objective			
Immediate Objective			
Outputs			
Activities			
Inputs			

Figure 5.40: LF Type 2a_DANIDA (1996:93)

LF TYPE 2b: EXTENDED MODEL

Definition:

In this category all models have Type 2 vertical components with additional components which extend the causal chain.

Discussion

Size: Type 2b has 1 exemplars.

Key source: Article

Main format: 5 vertical and 2 horizontal components.

Comments

There was only one model in this category from Dale (2003:62). The causal chain of the Type 2 model has been extended through the disaggregation of the **objectives**. This is much like what happened with the *outcomes* of the LM and is described in detail in the section on LM Type 2. The disaggregation is time related; "immediate", "effect" and "development" are alternative terms for short/medium and long term.

DEVELOPMENT OBJECTIVE	INDICATORS	ASSUMPTIONS
Children of estate labourers in X district enjoy better health than earlier	Frequency of treatment of relevant diseases Health personnel's statements Mothers' statements	No offsetting negative changes in related fields The improved practices are continued
EFFECT OBJECTIVES	**INDICATORS**	**ASSUMPTIONS**
Children are better nourished Children are less exposed to infections from their physical environment Children drink clean water	Height, weight/age Frequency of diarrhoea Health personnel's statements Mothers' statements Observed practice	***None*** (If the main causes of diseases have been addressed, improved health is virtually guaranteed in the short term)
IMMEDIATE OBJECTIVES	**INDICATORS**	**ASSUMPTIONS**
Food of higher quality is accessed The food supplements are accepted More hygienic household routines are practised Unpolluted water is used	Mothers' statements Money spending pattern Use of water-sealed toilets Quality of the well water Storage facilities of water in the households	Children's total consumption of more nutritious food is increased Children drink unpolluted water Children drink no other water
OUTPUTS	**INDICATORS**	**ASSUMPTIONS**
Information about nutrition and hygiene given to mothers Food supplements supplied to schools New tube wells provided Present water sources improved	Recorded activities/items/facilities Trainees' statements Observed activities/items/facilities	The trainees have got more knowledge The households can afford additional food items Household members accept changed composition of meals Household members accept to spend additional time absorbing the new information
IMPLEMENTATION TASKS	**INPUTS**	**ASSUMPTIONS**
For the nutrition/hygiene training Conduct the training Organise the training classes Prepare the training material Recruit the trainers Decide on the scope of the training	Training expertise Technical expertise Administrative personnel Management systems Tools and materials Logistics	***None*** (Under normal circumstances and if well planned and implemented)

Figure 5.41: LF Type 2b_Dale (2003:62)

5.4 Conclusion

The LM and LF typologies serve to reduce the huge heterogeneity of seemingly disparate and diverse LMs and LFs within a manageable classification system.

The two classification principles that underpin both typologies are extension and elaboration. Extension adds components to the model which extend the causal chain and elaboration adds components which add detail to or expand on exiting components. The LM typology used a third classification criterion – whether the model was linear or not. This does not apply to LFs as the matrix format means that all LFs are linear in nature.

The review of literature for this study did not uncover any comprehensive LF typologies. The work of Rolf Sartorius (1996) resulted in a grouping of LFs into "generations" which broadly grouped LFs into categories which followed changes in the approach to developing the LFs. This categorisation was found to be very useful when examining the development of LFs over time as discussed in Chapter 3 but did not allow for a classification of types of models.

Funnel & Rogers (2011:242-243) in their discussion of models which represent the logic and theory of progammes identified four broad approaches which they describe as:

1. **Outcomes chain logic models** which show a sequence of results leading to the ultimate outcomes or impacts of interest, were used in the first examples of program theory (Kirkpatrick ,1959; Suchman, 1967; Weiss, 1972)
2. **Pipeline logic models** which represent an intervention as a linear process, where inputs go in one end and impacts come out the other end, with activities and outputs in between have been widely popularised through publications such as the United Way Guide (1996) and the W.K. Kellogg Foundation Logic Model Development Guide (2004)
3. **Realist Matrices** represent program theory in the form of a table that shows the particular context (the implementation environment or participant characteristics) in which causal mechanisms operate to generate the outcomes of interest. This approach was developed in the 1990s when British sociologists Ray Pawson and Nick Tilley (1997) set out their approach to realist evaluation, which focuses on how interventions trigger particular causal mechanisms only on favourable circumstances.
4. **Narratives** set out the logical argument for a program in the form of a series of propositions that explain the rationale for the program – why it is needed

> and how it operates. The narrative can tell the story of how inputs produce a series of outcomes or how participants move through a program to achieve the intended results. Most other types of diagrammatic representation need to be accompanied by a narrative that explains them. Diagrams alone are rarely sufficient.

The typology of LMs presented in this chapter builds on these four approaches as it unpacks the first two approaches – "pipeline" and "outcome chain" to a greater degree and provides a more textured view of the model types.

LM Typology

Using the United Way model (1996a:vii) as the standard or reference exemplar of a LM, a typology of ten types was developed. Essentially there were 4 major groupings within the typology which are based on the number of paradigm case components contained in the model. These were

- standard models (that included all 4 components of the paradigm case)
- truncated (that had 3 or fewer standard components)
- hybrid (that 3 or fewer standard components with additional components)
- no designated components (no labelled standard model components)

Through the classification of 120 models it was found that the most frequent LM types are:

- Type 2 – Extended linear models which consist of 4 United Way core components with additional components which extend the causal chain in a linear format (n=39)
- Type 9 - No designated component linear models which contain no labelled paradigm case components in a linear format (n=31)
- Type 6 - Extended hybrid linear which have 3 or fewer paradigm case components with additional components which extend the causal chain in a linear format (n=16)

There were three key clusters of modifications of the paradigm case over time which are linked to the two classification principles that underpin both typologies:

1. Extension - the first version of United Way model was very specific and components were fairly limited and so components were added to and components were disaggregated to make the model more user-friendly and a better representation of how interventions unfold over time. Extension occurred mainly through disaggregation of *outcomes* into *initial/immediate, intermediate and long term* and the addition of a *target group* or *participants*.

2. Elaboration - the second key cluster of modifications began when the model began to be used for purposes other than design. Inclusion of components such as *indicators*, *sources of data*, *external factors* suggest that the models were being used for monitoring and evaluation purpose as well. This is described earlier in the chapter as logic in use.

3. A combination of extension and elaboration – the Second version of United Way model (2008:26) incorporates both extension and elaboration and presents the most comprehensive version of LMs. In this second version of the United Way model the concept of programme theory is also separated from the model and highlighted as an issue to be addressed. This can be seen as critical in a field where models often try and do both or claim to do one and actually do the other.

The influence of the UWEX group of models must be noted as their particular "branding" in terms of particular components and colour schemes influenced the development of a number of models reviewed. Three models in particular seem to have influenced types of formats and components - USAID, UWEX and W.K. Kellogg as these three models and manuals are often referenced in the work of others.

LF typology

The use of two paradigm cases occurred as the review of the models pointed to two fairly distinct groupings of models, based on the vertical components of the LFs. This distinction resulted in a typology of two major types, with some derivative sub-types – Type 1 which refers to the USAID (1980:59) model and Type 2 which refer to the NORAD (1990:17) model. Essentially there were 5 major groupings within the typology

which are based on the number of paradigm case components contained in the model and the terminology used in the model. These were

- Standard type 1 – models that are an exact match for USAID (1980:59)
- Extended type 1 – models that extended the causal chain of Standard Type 1
- Standard type 2 - models are an exact match for the NORAD (1990:17)
- Elaborated type 2 – models elaborates on the horizontal components of Standard Type 2
- Extended and elaborated type 2 - models that add to both the vertical and horizontal components of the Standard Type 2 model

Through the classification of 29 models it was found that the most frequent LF types are:

- Type 1a - Extended type 1 – models that extended the causal chain of the USAID model (1980:59) (13)
- Type 1 models that are an exact match for USAID (1980:59) (10)

There were two key clusters of modifications that impacted on the modifications of LF over item:

1. Extension - the USAID model (1980:59) collapsed *input* and *activities*. The addition of the *activities* component generated the largest number of modified models in the typology. Other extension such as *component objectives* (AusAid) has seen very little uptake. The key extension for the Type 2 model, NORAD (1990:17), was the disaggregation of objectives. There was also very little uptake of this extension.

2. Terminology – NORAD's (1990:17) use of *Development objectives/ immediate objectives* caused a drift from the original USAID model. If this had not occurred the grouping of LFs overall would all be much closer. This shift in terminology was not useful in the long term as NORAD's second version in 1996 reverted to the USAID vertical component terminology while keeping its collapsed horizontal columns – where Indicators and MoV are in one column.

It is evident from the development of the typologies for both LMs and LFs that some modifications to the paradigm cases were useful and improved the model. However, some of the more "cosmetic" changes (especially the introduction of new terminologies)

do not seem to be particularly relevant or added specific value. It is clear that the plethora of models, both LM and LF have occurred not always due to modifications for improvement of the model but purely “branding” of the donor or developing agency.

A summary of the LM and LF typologies is shown in Figure 5.43. This overview can be used by developers and users alike to understand the variety of models in circulation. The core components of the paradigm cases of the LM and LF (both types) are shown in the blue squares and modifications to the models are shown either in yellow squares (extending the causal chain) or green circles (elaborating on the core components). Linearity is shown in only in the LMs and is indicated.

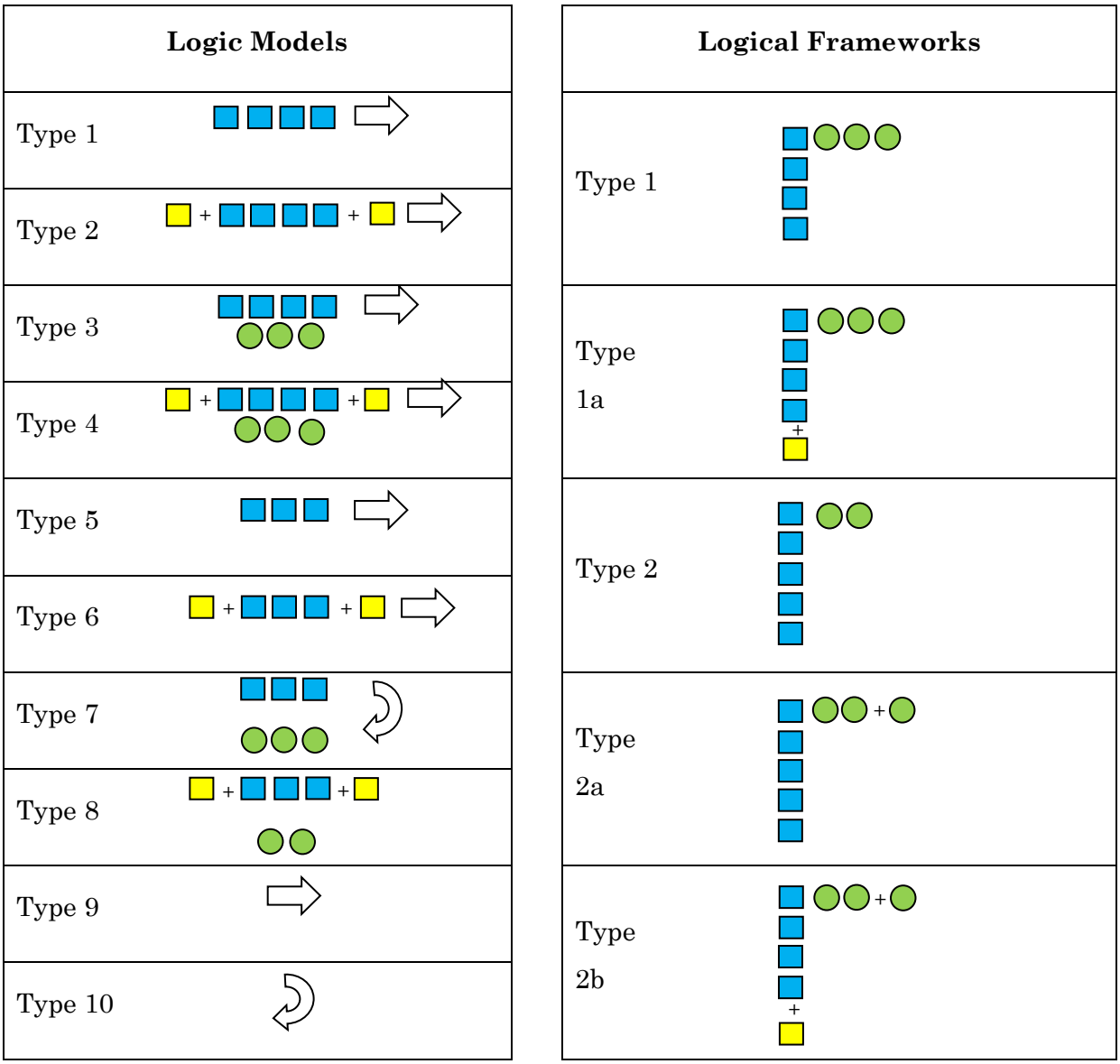


Figure 5.42: Graphical representation of LF and LM typologies

Key:

- Core component of causal chain
- Components that extend causal chain
- Elaborations of causal components

CHAPTER 6: A SURVEY OF SOUTH AFRICAN NGOs

6.1 Introduction

Much of the discussion regarding the use of logic models (LMs) and logical frameworks (LFs) in South African (SA) Non-Governmental Organisations (NGOs) is anecdotal. The literature review for this study found that the most substantial work in this area has been done by Lisa Bornstein (2003, 2005, 2006) particularly two studies she carried out examining the use of LFs (amongst other issues) in SA NGOs. Bornstein's study in 2003 used interviews, field visits and programme documents from 20 SA NGOs and examined the use of LFs, participatory processes, impact enhancement and financial diligence. Her study, in 2006, was conducted with 30 NGOs in SA and their United Kingdom funders. In order to contribute to the understanding of the use of models in SA NGOs and the relationship between NGOs and their donors, a web-based survey[87] was carried out for this thesis. Where possible, connections are made between the findings of this survey (carried out in 2011) and Bornstein's findings. This should provide a slightly more textured view of the issue of the relationship between SA NGOs and their response to the models their donors require.

The survey of South African NGOs focussed on the following key questions:

1. What are the particular planning, managing, monitoring or evaluating tool requirements of donors when supporting South African NGOs?
2. What are the greatest challenges that NGOs face when working with donors in terms of their required tools?
3. What is required by SA NGOs to better meet donor requirements?

A total of 244 respondents completed the survey. However, because of incomplete responses, the final valid data set came to 235 questionnaires. Subsequent cleaning and coding of the 235 questionnaires revealed that another 21 questionnaires could be disregarded as the participating organisations were either not NGOs (i.e. foundations or trusts) or not based in SA. This resulted in a final total of 214 valid questionnaires for analysis.

[87] A copy of the questionnaire used for the study can be found in Appendix 3.

Although the survey sample was described in detail in Chapter 4, a summary of the sample characteristics is provided here in order to contextualise the discussion in this chapter:

Organisations (n=214)

1. A large number (168 / 79%) of the sample organisations could be located in the Prodder[88] directory.
2. The greatest percentage (87,4%) of organisations represented in the sample were NGOs that did not have a particular attribute like being faith-based, community based or focusing on volunteerism.
3. Most of the responses came from two provinces – Gauteng (73) and the Western Cape (72) which correlates with the spread of NGOs in the country[89]
4. Organisations surveyed work mainly in their own province (61,7%).
5. The sampled organisations are involved in a wide range of activities (23) which vary greatly in nature. Training (67%), advocacy (53%) and psychosocial (43%) are the most common interventions.
6. Over half of the sample (134 organisations) work in the social welfare and education sector, with the health sector being the next largest grouping (35). The smallest number of organisations (9) is involved in environmental issues.

Respondents (n=210)

1. Most respondents (170) were in a management position (93 managers and 77 directors). It is interesting to note that only 4 M&E officers responded. This may point to the low number of these posts in NGOs sampled or that planning, monitoring and evaluation lies within the scope of management tasks.
2. Most of the respondents (182) or 85% had tertiary education.
3. Respondents had been in their positions for an average of 13,3 years (with a range between 1 and 42 years)

[88]Prodder is a directory of NGOs operating in South Africa compiled by The Southern African NGO Network (SANGONeT[88]). Prodder can be located at www.prodder.org.za
[89] Claim based on figures taken from the South African NGO Coalition (SANGOCO) Directory.

Structure of the chapter

This chapter is divided into seven sections as follows:

Section 1: Donors of SA NGOs
Section 2: Differing notions of what is important in the funding relationship
Section 3: NGOs and donor methods
Section 4: Perceptions about donor methods
Section 5: The kinds of support donors could provide to assist NGOs
Section 6: Strategies to improve donor/grantee relationships
Section 7: Overview

The questionnaire began by asking respondents about the nature of the organisation, its purpose and reach in SA. The respondents were also required to provide information on their role in the organisation, their level of education and experience in the sector in which they worked. This was followed by a series of questions regarding the NGOs' perceptions and response to donor demands. Their responses are discussed in detail in the following sections.

Section 1: Donors of SA NGOs

NGOs were first asked how many of their donors requested that they conform to particular methods of planning, monitoring, evaluating or reporting. Just over half of the NGOs surveyed indicated that the majority of their donors required their own particular methods. Only 21 organisations indicated that their donors made no demands on them. Figure 6.1 shows the range of responses.

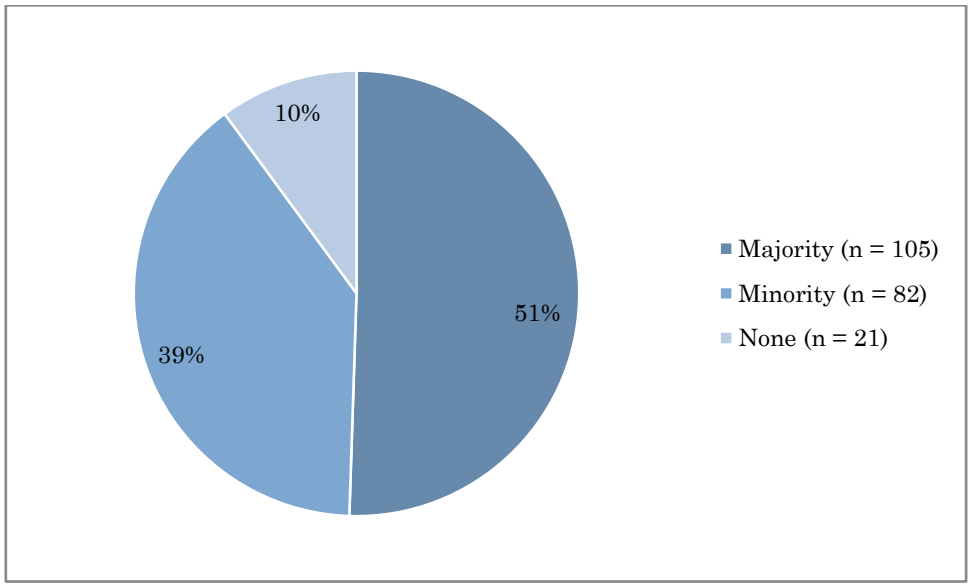


Figure 6:1: Proportion of donors who request particular method according to respondents (n = 208)

The fact that almost all (90%) of sampled organisations indicated that some sort of donor specified approach was required, indicates how pervasive donor demands on SA NGOs are.

In a follow-up question, respondents were asked to list five main donors that their organisation had dealt with in the last three years. They then had to indicate in each case whether the specific donor required a particular type of method for planning, monitoring, evaluating or reporting. Figure 6.2 shows their responses.

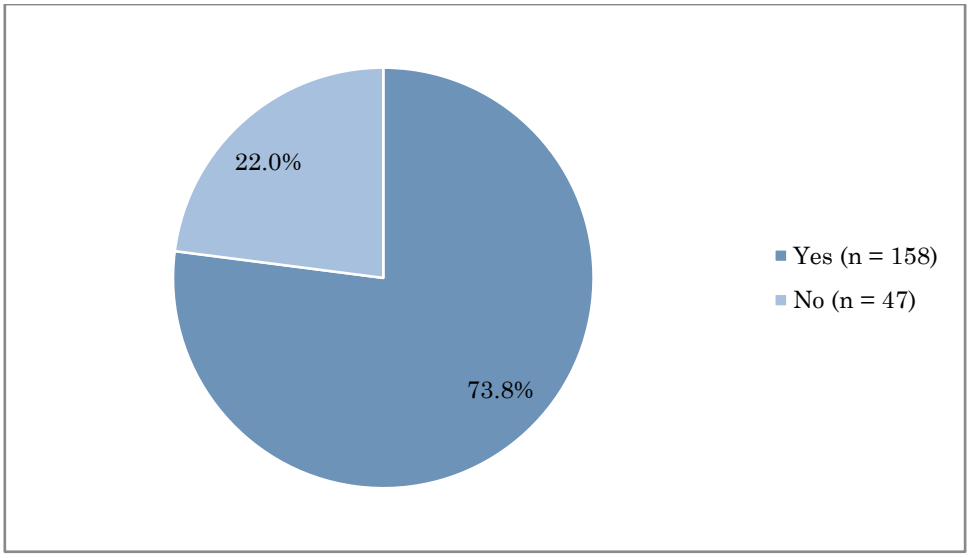


Figure 6:2 NGOs' responses to "Did the donor require their own method to be used?" (n = 205)

The majority (74%) of organisations responded that donors dictated a method of planning, monitoring, evaluation or reporting. A total of 792 individual donors/funders were identified by the respondents. A closer examination of these donors is now presented.

Of the 792 donors, 463 (58,4%) were categorised as International and 329 (41,5%) as South African donors. These two categories were subsequently further categorised according to the five criteria shown in Table 6.1.

Table 6.1: Description of donor categories

NATIONALITY	
International	Organisation's head office is based in a country other than South Africa
South African	Organisation's head office is based in South Africa
DONOR TYPE	
Corporate sector	For-profit organisations based in the corporate/business sector. Includes foundations of private sector companies and Corporate Social Responsibility Initiatives (CSRIs)
Foundation	Non-profit philanthropic organisations donating funds to organisations or providing funding for their own charitable purposes. Includes private foundations (usually endowed by families or individuals).
Government	National governments, government departments. Also includes government parastatals (owned or controlled wholly or partly by the government)
Government development agency	Government run development agencies which provide regional or international aid
Other	Individuals or religious organisations

Illustrative examples of international donors, which fund the NGOs, surveyed are presented in Table 6.2.

Table 6.2: Illustrative International donors per category (n=463)

INTERNATIONAL: FOUNDATION	INTERNATIONAL: GOVERNMENT AGENCY
Atlantic Philanthropies	Australian Aid (AusAID)
Charles Stewart Mott Foundation	Belgian Development Agency
Comic Relief	Canadian International Development Agency (CIDA)
Elma Philanthropies	Danish International Development Agency (DANIDA)
McCarthy Foundation	Department for International Development (DFID)
Open Society Foundation	Norwegian Agency for Aid Cooperation (NORAD)
INTERNATIONAL: GOVERNMENT	**INTERNATIONAL: CORPORATE SECTOR**
Danish Embassy	Bristol Myers Squibb
Dutch Government	CISCO
Embassy of Finland	Coca-Cola
High Commission of Canada	MICROSOFT
United States Embassy	Siemens
INTERNATIONAL - OTHER	
African American Christian Foundation	
Catholic Church Against Famine for Development (CCFD)	
Church of Sweden	
Evangelischer Entwicklungsdienst Church Development	
Mennonite Mission Network	

Many of the major international funders are donors of the organisations surveyed. These foundations come from a range of countries including:

- The United Kingdom (CHELLO Foundation, Elton John Aids Foundation)
- USA (Open Society Foundation, Ford Foundation, Dell Foundation)
- Netherlands (Stichting Liberty)
- Germany (Rosa Luxemburg Foundation)

The most frequently reported government funding was from the Finnish government followed by the Netherlands. With the corporate sector funding it was more difficult to distinguish countries represented as many of the corporations were multi nationals e.g. BHP Billiton is an Anglo Australian multinational, but many USA corporates were represented. Sixteen government development agencies provided funding for the NGOs surveyed. The "other" section contained only religious organisations. A detailed discussion of frequencies per category is presented later in this section.
Illustrative examples of South African donors which fund the NGOs surveyed are presented in Table 6.3 below.

Table 6.3: Illustrative South African donors per category (n= 329)

SOUTH AFRICAN: FOUNDATION	**SOUTH AFRICAN: PRIVATE SECTOR**
AIDS Foundation of South Africa **DG Murray Trust** **Foundation for Human Rights** **Mabopane Foundation** **Nelson Mandela Children's Fund** **Oppenheimer Foundation**	ABSA African Explosives and Chemical Industries (AECI) De Beers First National Bank Murray & Roberts Naspers
SOUTH AFRICAN: GOVERNMENT	**SOUTH AFRICAN: GOVERNMENT AGENCY**
City of Cape Town **Department of Health and Social Development** **Department of Arts and Culture** **West Coast District Municipality** **Department of Education (Western Cape)** **Eastern Cape Basic Education Department**	Health and Welfare Sector Educational Training Authority National Lottery Distribution Trust Fund State Information Technology Agency ESKOM (National electricity supplier)
SOUTH AFRICAN: OTHER	
Christian Development Trust **Mthunzi Ngwenya (individual)**	

Most of the South African foundations are individual or family trusts (such as the Graham Beck Foundation, the Raith Foundation and the Nelson Mandela Children's Fund). The government funders are from a range of levels within government – national, provincial, municipality and city. The National Lottery was the most frequently mentioned government agency that supported the NGOs surveyed. There were only two South African donors classified as "other" – an individual and a religious organisation.

The results of the classification for both international and South African donors are presented in Table 6.4 and the standardisation of these results, out of 100, is presented in Figure 6.3.

Table 6.4: Counts of donors by category[90]

Donor type	N	n requiring own method	% requiring own method
International - Foundation	158	108	68,4%
South African - Corporate sector	145	56	38,6%
South African - Foundation	140	93	66,4%
South African - Government	104	79	76,0%
International - Government development agency	81	69	85,2%
South African - Government development agency	74	62	83,8%
International - Corporate sector	55	34	61,8%
International - Other	19	9	47,4%
International - Government	14	10	71,4%
South African – Other	2	1	50,0%
Total	**792**	**521**	**65,8%**

[90] Excludes donors not specified (n = 16) and those for whom "nationality" was not clear (n = 10)

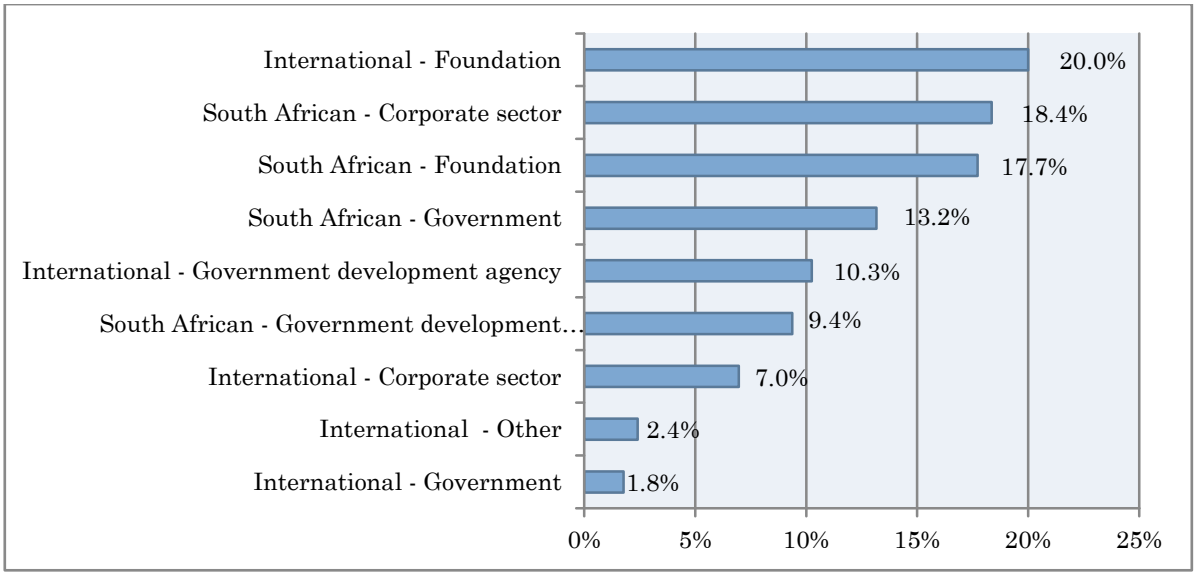


Figure 6.3: Donors by category (N = 792)[91]

Discussion

The donor landscape of the NGOs surveyed reflects the current shift in funding patterns in SA generally

Of the 792 donors, 463 (58,4%) were categorised as International and 329 (41.5%) as South African donors. The classification of the donors identified by the surveyed NGOs shows that the dominance of international funding for SA NGOs, which was once the norm, is changing. This finding is commensurate with an extract below, taken from the *fundsforngos* website[92] (an online initiative "working for the sustainability of NGOs by increasing their access to donors, resources, and skills") which describes the decrease in international funding for South African NGOs in the following way:

> The UK Department for International Development (DFID) recently announced its withdrawal as a development donor to South Africa. Other bilateral donors are also decreasing their funding, with the US planning to decrease its South Africa aid by 18% in 2014. The reduction in bilateral aid will create funding challenges for South African NGOs. To meet this challenge, NGOs need to broaden their funding sources, finding alternative donors at home and abroad.

It is important to note that although international donors may make up a smaller grouping in this survey, what is not known is what proportion of the overall amount of

[91] Excludes "South African – Other" (n = 2) due to the small number of donors in this category
[92] http://www.fundsforngos.org/south-africa/alternative-sources-funding-south-african-ngos/ Sourced 12 June 2013

funding they provide to the NGOs surveyed. Despite the decreasing numbers of international donors in SA, they still play a huge role here simply because of the amount of money involved. According to statistics on the *fundsforngos* website, between 2009 and 2012 "US Foundations gave over $300 million in grants to over 400 organizations in South Africa. These 1000 grants ranged from $1000 to nearly $22 million". A list of the top 20 American (USA) donors (by number of grants) are provided on the website and the top 10 are shown in Table 6.5.

Table 6.5: Top 10 US Foundations Donors to South Africa 2009 – 2012 by No. of Grants 93

Name of donor
1.Ford Foundation
2.Charles Stewart Mott Foundation
3.Andrew W. Mellon Foundation
4.Bill and Melinda Gates Foundation
5.Carnegie Corporation of New York
6.Kresge Foundation
7.Rockefeller Foundation
8.Howard G. Buffett Foundation
9.Koch Foundation
10.Michael and Susan Dell Foundation

Of the top 10 US donors, four are represented in the survey sample and are shaded in blue in Table 6.5. This indicates that some of the biggest US donors are still funding SA NGOs and also importantly, shows that some of the biggest donors are mentioned in the survey.

[93] http://www.fundsforngos.org/south-africa/alternative-sources-funding-south-african-ngos/ Sourced 12 June 2013

The most frequently mentioned international donor types were foundations (158)
The category of foundations was almost double the next most frequently mentioned type which was government development agencies (81). A substantial number of corporate donors (55) were mentioned, but few government donors (14). Direct international government funding to NGOs decreased rapidly after the end of the apartheid era as bi-lateral funding to the newly elected ANC government was seen as more appropriate. Table 6.4 (the standardisation of donor numbers) indicates that where international donors are concerned, the split between the percentage of private (foundations, corporate sector and other) funders (29.4%) is more than double public sector (Government and Government agencies) funders (12.1%).

The most frequently mentioned South African donor type was corporate sector (145)
The corporate sector category was followed closely by foundations (140) and government (104) donors. When examining Table 6.4 (the standardisation of donor numbers) where South African donors are concerned, the split between the percentage of private (foundations, corporate sector and other) funders (36,1%) and public sector (Government and Government agencies) funders (22,61%) occurs more evenly. The percentage of both private and public sector support of SA NGOs shows that funding sources are coming from home and abroad as suggested on the *fundsforngos* website.

In the following figure (Figure 6.4) the responses to the question "what proportions of donors require their own method to be used for planning/ monitoring/ reporting on funded projects are presented?" The responses are indicated by donor category as in the classification described earlier.

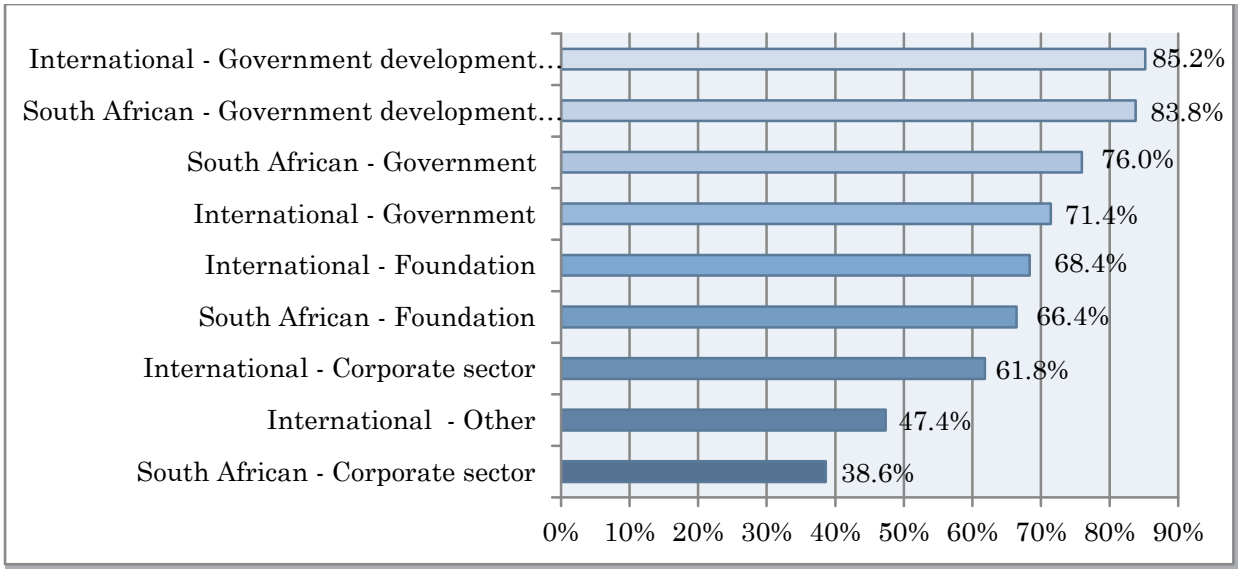


Figure 6.4: Percentage of donors who require their own method to be used for the projects they are funding, by category of donor (N = 790)

The most interesting result is the fact that government or public sector funders – whether it is the South African government or one of its agencies or whether it is international governments and their development agencies – are deemed to be more specific and "demanding" about using their own methods (ranging from 85% for International Government Agencies) to 71% for International or foreign Governments. This is not to say that International Foundations/ Private Sector organisations do not also insist that their own methods and approaches be used, but certainly to a lesser degree. The one category of donors that seems to be the least concerned with uniform demands for using their own methods, are South African private or corporate sector organisations (38%). This could simply be because these funders do not all have their own specific and preferred methods and tools for monitoring and evaluation. But it could also be an indication that this is a more disparate and heterogeneous sector with less concern for uniform requirements. The fact that government or public sector funders prefer the use of their own tools and methods can be understood to reflect a more standardised and homogeneous demand for such tools. These demands usually originate at the "centre" of government and are embedded in the development policies of different government administrations.

In addition, agencies such as GIZ, SIDA, Ford, NORAD, DFID, USAID, CIDA and many others have all over the years invested quite heavily in developing their own templates and methodologies for M&E. It should, therefore, not come as a surprise that they would

insist that these be used by the organisations that they fund. The demand for specified methods, by international funding, is also reflected in the 2006 Bornstein study:

> Among the range of imposed 'conditions' and 'standards' that accompany international funding to development projects in South Africa, are now found specific requirements related to project targeting, proposal format and impact measurement Together with intermediary organisations, they increasingly specify how recipients farther down the aid chain may use funds and must account for their use. (Bornstein 2003:393)

What is not discussed in the Bornstein study is the growing demand by SA organisations – whether public or private sector – for their own methods of planning, monitoring, evaluating and reporting. These home-based organisations have mimicked the demands of international donors completely. This discovery of emulation of "demand behaviour" in local donors is a valuable contribution to current evaluation research.

Section 2: Different notions of what is important in the funding relationship

In this section we discuss responses to the questions posed to NGOs on the emphases of donors in the funding relationship and what respondents believe to be the priorities of donors in this relationship.

Table 6.6 focuses on the various emphases of donors and NGOs in the funding relationship. The respondents were asked to select three options from a set of items. In the first question they had to choose those that they felt donors regarded as important in the funding relationship. In the second question they were asked to choose three items that they believed were important in the funding relationship. It is important to note that the responses of NGOs are based on their experience of donors – in other words what it feels like working with funders – not responses from their funders. However, perceptions of one party in a relationship are an important issue to explore. Table 6.6 shows a comparison of what NGOs believe *donors* focus on in their relationship and what they, *themselves*, believe should be the focus.

The cells highlighted in blue for both donors and NGOs, show those issues that had over 50 responses – which shows a high level of interest from either the donor or the NGO. The grey cells in each column indicate responses below ten – which reflect a very low level of interest.

Table 6.6: Comparison of responses reflecting NGOs' experiences of donor emphasis in the funding relationship and what NGOs believe to be important (NGOs chose three most appropriate)

	What is important to DONORS	What is important to NGOs
Show how activities (what you do) will result in outcomes (how people benefit)	157	125
Ensure that the organisation is accountable for their project (project is run according to what was stated in proposal)	119	94
Include measurable indicators (signs of success)	125	92
Be flexible enough to allow for changes in a project	18	73
Involve the people who benefit from your project	38	65
Take the context in which the organisation works into account	26	56
Involve everyone on the staff working together to plan the project	4	24
Produce project reports that are useful to the donor	69	21
Produce project reports that can be disseminated to the general public	11	15
Allow for unexpected benefits in the project	1	12
Result in a document which allows external evaluators to evaluate the project	10	8

The table shows that NGOs believe that both they and donors tend to emphasise the same three issues ("show how activities will result in outcomes"; "include measurable indicators"; "ensure that the organisation is accountable for their project"). However, the order differs slightly with NGOs rating "accountability" higher than "indicators". The results of these priorities are not surprising – both parties are interested in whether the organisation is making a difference, how they demonstrate this and how they show accountability.

What is important to note is that when comparing the two columns, the responses related to what NGOs believe donors focus on, cluster around the first four items which all point to showing change, providing evidence for results and being accountable.

However, when selecting items that they believe to be important, there is a greater range of items which are ranked by NGOs as important. They seem to acknowledge that what donors focus on is important, but also feel issues such as flexibility to allow for changes in the project (73), participatory processes (65) and contextual issues (56) are important. The issues that donors focus on the least are: "allowing for unexpected results" (1), "participatory planning processes" (4) or "reporting processes that can be used for external evaluation purposes" (10). The NGOs show a similar lack of interest in developing documentation for external evaluation purposes.

In Figure 6.5, a comparison is presented of the proportions of responses to the two sets of possible priorities. The figure reiterates the different clustering of emphasis in the donor/NGO relationship. While there is certainly an overlap in interests which focus on outcomes being achieved, the NGO emphasis on participation, context and flexibility can be seen as a focus on being needs driven and responsive to the environment. This ethic is seen through their emphasis on contextuality (own organisation/context/flexibility) and inclusiveness (involve beneficiaries/staff). On the other hand, the "interests" of the donor can be labelled as a utilitarian (focus on use) and compliance (accountability/ measurability) ethic.

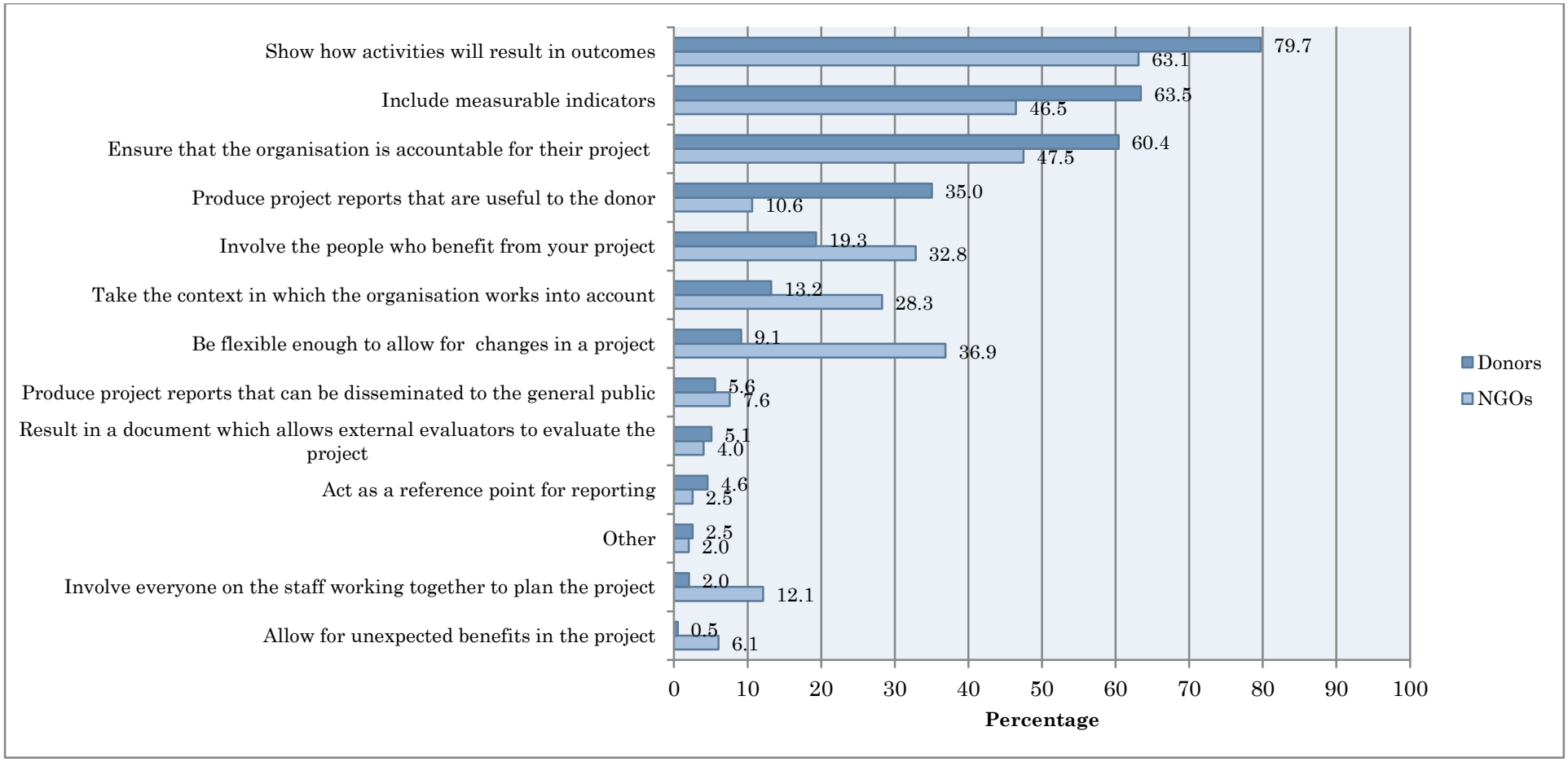


Figure 6.5 NGOs' priorities versus what NGOs' experience as donors' priorities

Discussion

The first three issues are fairly strongly emphasised by both NGOs and donors

The most significant issues for both NGOs and donors (outcomes, indicators/signs of success and accountability) all speak to the need for NGOs to show demonstrable results in their projects. The quotation below, from Bornstein (2003: 394), shows that the pressure on both donors and NGOs to demonstrate success is growing:

> Donors are driven by concerns to demonstrate an economic 'bang for their buck' as the failures of aid to halt deepening impoverishment of much of the world's population has led to fears of both a dismantling of the aid industry and increased global conflict. Systems to enhance accountability are a prominent feature of emerging development management, and most often are designed to demonstrate outcomes to those providing the funding.

Three issues stand out in terms of emphasis by NGOs only

NGOs believe that involving beneficiaries in projects, taking the project context into consideration and allowing for change, is important whilst donors do not. As Bornstein (2003: 394) points out the use of "logframes generates contradictions for organisations that are committed to people-centred or participatory development". These resulting contradictions in NGOs can lead to deception on the part of the NGO as is discussed in the final part of this chapter.

Donors viewed the development of NGO reports for them as very important

One issue was clearly deemed to be more important to donors than the NGOs – the production of useful reports to donors. Bornstein (2003:398) describes the scepticism SA NGOs have towards the ever-increasing "irrational" reporting requirements of donors which are often linked to donor methods such as LFs:

> Directors and managers uniformly described a trend towards increased reporting requirements in tangent with the use of rational planning tools. While our respondents in both INGOs and South African NGOs recognised the need for reporting to assure accountability and identify problem areas, South African NGO staff mentioned specific concerns. Directors noted that they received little feedback on reports and several mentioned that they suspected that their reports went unread. Many directors also noted the 'irrationality' of reporting requirements.

Section 3: NGOs and donor methods

In this section the question of which methods donors require the NGOs to use is addressed. In this item in the questionnaire, NGOs had to refer to a donor who had either given them their largest grant or who had supported their work for the longest period AND has required them to use a particular method of or approach to planning. This section of the questionnaire was a close examination of the selected donor. Figure 6.6 presents the breakdown of the most often cited methods.

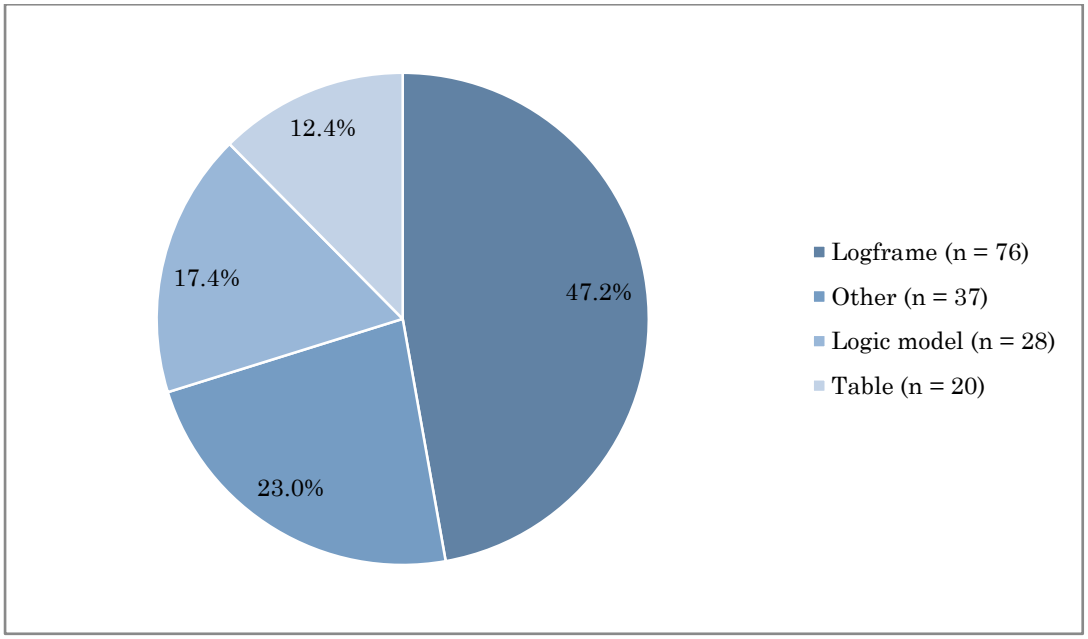


Figure 6.6 Selected donors' preferred method (n = 161)

Figure 6.6 shows that almost half (47%) of the NGOs selected donors require a LF to be used in some capacity as part of the funding relationship. The next most frequently used model was a LM (23%).

In the next table (Table 6.7 we disaggregate responses by the donor classification presented earlier.

Table 6.7: Counts and percentages of donors requiring use of LMs and LFs

Donor category	N	n requiring logic models	% requiring logic models	n requiring logical frameworks	% requiring logical frameworks
International - Foundation	158	19	12.0%	47	29.7%
South African - Corporate sector	145	5	3.4%	16	11.0%
South African - Foundation	140	22	15.7%	30	21.4%
South African - Government	104	19	18.3%	29	27.9%
International - Government development agency	81	16	19.8%	46	56.8%
South African - Government development agency	74	10	13.5%	25	33.8%
International - Corporate sector	55	8	14.5%	14	25.5%
International - Other	19	2	10.5%	5	26.3%
International - Government	14	2	14.3%	6	42.9%

The "predominance" of the LF as the most "popular" tool is again illustrated in these figures. But what is interesting is the fact that international governments (42,9%) and government agencies (56,8%) are clearly the most committed to this approach. Although the SA government and its agencies also prefer using LFs, we find the South African Corporate sector requiring low levels of either LMs or LFs.

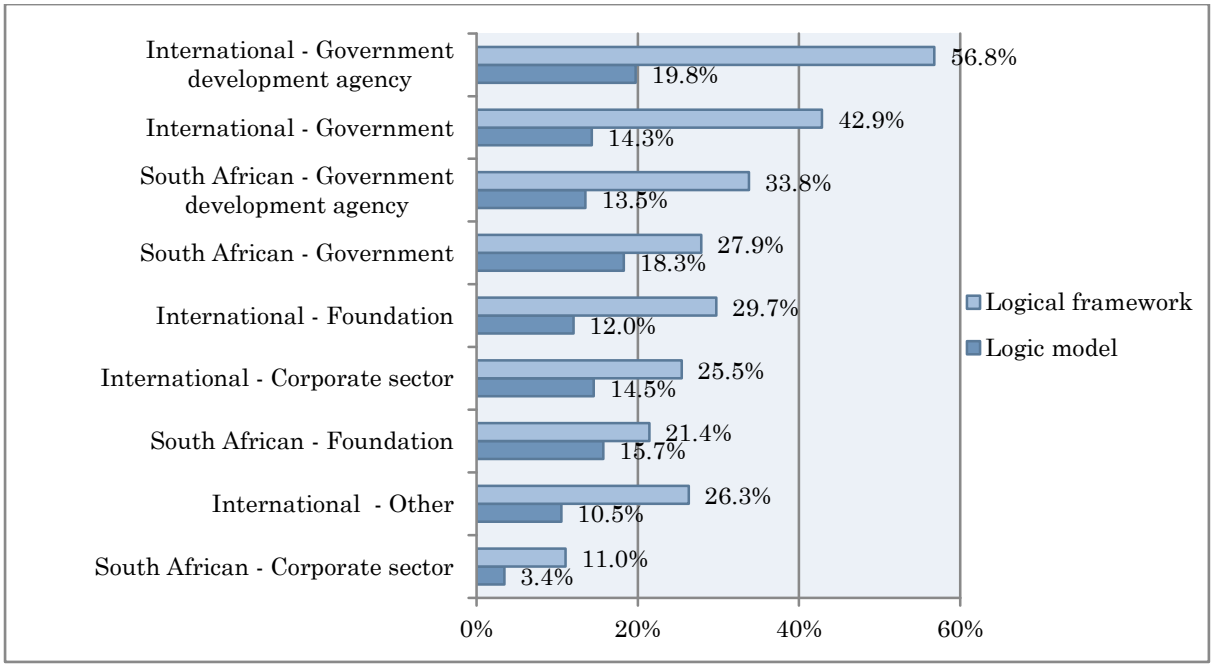


Figure 6.7: Percentages of donors requiring use of LMs and LFs

An overall standardisation of responses (out of 100) shows the popularity of the LF, followed by a range of other approaches, the use of tables and then the LM (Figure 6.8).

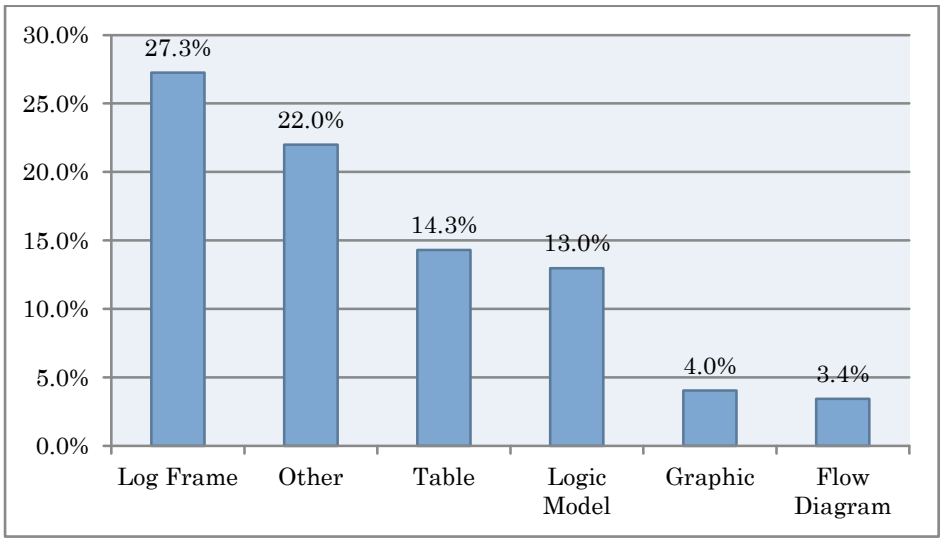


Figure 6.8 Case study donor's preferred method (n = 161)

Our results are consistent with Bornstein's study which also found that:

> Donors increasingly dictate the terms South African NGOs must satisfy to access international funding. Most donors to South African organizations demand some form of a logical framework in an NGO's application for funding (Bornstein, 2005).They also demand reporting against that framework, with financial accounts

> accompanying a tabular 'progress report' on a regular (3 to 6 month) basis. (Bornstein 2006:54)

A closer examination of the "other" category showed that NGOs had listed a range of donor demands:

a) reporting formats:

- Annual report
- Narrative
- Donor template
- Forms
- Financial Reports
- Case studies
- M&E list

b) evidence required:

- Data

c) activity by the donors:

- Monitoring and inspection by the donor

In a follow-up question respondents were asked to indicate for which purpose or functions donor specified methods are typically used in their organisations. Respondents were specifically asked to "rate" the extent that these methods perform (on a three point scale ranging from "Use fully", "Use partly" and "No use". Five domains of possible application were identified:

- Planning
- Monitoring
- Evaluation
- Reporting
- Reviewing

The responses are presented in Table 6.8. Those cells where the proportions of responses are more than 50% have been shaded in grey.

Table 6.8: Counts and percentage distributions of responses by model type

		Planning			Monitoring			Evaluation			Reporting			Reviewing		
		Fully	Partly	Not at all	Fully	Partly	Not at all	Fully	Partly	Not at all	Fully	Partly	Not at all	Fully	Partly	Not at all
Logframe	**n**	41	27	5	51	23		49	22	3	63	10	1	37	34	3
	%	56.2%	37.0%	6.8%	68.9%	31.1%	0.0%	66.2%	29.7%	4.1%	85.1%	13.5%	1.4%	50.0%	45.9%	4.1%
Logic model	**n**	18	8	1	21	6	1	20	5	1	26			18	9	
	%	66.7%	29.6%	3.7%	75.0%	21.4%	3.6%	76.9%	19.2%	3.8%	100.0%			66.7%	33.3%	
Other	**n**	13	13	9	18	12	6	12	13	10	28	6	2	9	18	7
	%	37.1%	37.1%	25.7%	50.0%	33.3%	16.7%	34.3%	37.1%	28.6%	77.8%	16.7%	5.6%	26.5%	52.9%	20.6%
Table	**n**	6	6	8	5	7	7	7	9	4	15	5		5	11	3
	%	30.0%	30.0%	40.0%	26.3%	36.8%	36.8%	35.0%	45.0%	20.0%	75.0%	25.0%		26.3%	57.9%	15.8%

Discussion

A first interesting result pertains to the prevalence of use of methods in each category.

A comparison across the different domains of application shows that ALL four methods listed recorded more than 50% responses (for FULL USE) for Reporting purposes. The next most pervasive use was recorded for Monitoring purposes (where LFs, LMs and Other methods all recorded more than 50% of the responses in the FULL USE category).

The LF and LM are used predominantly for Planning purposes.

This is not entirely unexpected as these tools were initially designed for project management purposes. The other formats are not used for planning purposes at all.

Comparing the application of each method across the five domains re-affirms the dominance of the LF, and surprisingly also the LM, across all domains.

Although the LM was indicated by respondents as the most used format, when respondents discussed the use of particular models per function, both LMs and LFs were equally used.

Section 4: Perceptions about donor methods

In the previous sections of this chapter we focused on the requirements for different tools and approaches as stipulated by donors as well as the use to which these tools are put. In this section we present the results of items in the questionnaire that focus more on the perceptions and attitudes of NGOs towards these tools. As suggested earlier, the researcher's experience in engaging with many NGOs over the past decade is that NGOs are fairly negative towards the demands that donors make with regard to the applications and use of tools such as LFs and LMs. Bornstein (2006:55) also alludes to the pressures that donors place on project managers and the time-consuming nature of activities that are aimed at meeting such demands:

> Among the South African NGOs, the pressure to report according to the LFA and donor timelines was felt at all levels but imposed specific demands on management. Reporting and managing donors consumed hours of staff time, for example, 60 per cent of a manager's time in one NGO, and at another over 230 professional hours a month on donor-related matters.

Respondents were asked to indicate the extent to which they agree or disagree with a number of statements about donor methods. In Table 6.9 we present the proportions of respondents who either Strongly Agreed or Agreed with each statement (grey cells indicate percentages that are higher than 50%).

Table 6.9: Proportion of Agree/Strongly Agree by Methods

Statements about donor's preferred method	Donor's preferred method			
	Logic model	Log-frame	Table	Other
The donor's method captures the complexity of our project.	37%	63%	65%	52%
The donor's method is worth the time it takes to develop.	29%	21%	45%	21%
The donor's method is suitable for development work.	14%	9%	35%	36%
The donor's method uses foreign terminology.	8%	31%	30%	15%
I cannot see how the donor's method makes us more accountable.	22%	19%	30%	24%
The donor's method is difficult to develop.	41%	39%	35%	33%
The donor's method is very rigid.	44%	52%	50%	61%

Discussion

Respondents indicated that the "LF", "tabular" and other formats tend to capture the complexity of their projects more so than "LM".

This is an unusual response as in the researcher's experience NGOs often criticise LFs and LMs for not being able to capture the complexity of development work which is often responsive in nature. The literature review for this study also found numerous references to this limitation of the models (Adler, 2002; Astbury & Leeuw, 2010; den Heyer, 2001; Dyehouse & Bennet, 2009; Gasper, 2001). Bornstein (2003:95) also indicates that the LF cannot capture complexity:

> Moreover, the complexity of development problems and the need for flexible and responsive interventions are elided by the need to fit projects and programmes into the boxes of the matrix; iterative learning rests uneasily with the control functions of monitoring achievement of milestones.

Respondents tend to believe that none of the donor's methods are worth the time it takes to develop them.

This finding is in line with the researcher's experience.

It is, therefore, not surprising that the vast majority indicated their disagreement with the statement that such methods are suitable for development work.

This result contradicts the first finding concerning the models being able to capture the complexity of NGO work.

The use of foreign terminology in these approaches does not seem to be a major source of concern neither does it seem that the approaches are seen as overly difficult.

This result is supported by findings in Section 5 where very few respondents indicate the need for support with regard to model terminology.

But there is consensus that the use of these methods "forces" them to be more accountable to the donors.

This finding is linked to the findings shown in Table 6.7 of this chapter which shows NGOs are as concerned as donors about accountability.

"LF", "tabular" and other formats tend to be seen as more rigid than "LMs".

This finding is consistent with the researcher's experience of responses from NGOs.

The picture that emerges from the surveyed NGOs' responses is quite interesting. There are not big differences in perceptions across the different methods, which mean that the perceptions expressed are fairly widely held. But there is a clear scepticism about the usefulness of these methods and the time invested in their development. The respondents do not find these methods to be particularly suited to development work and also find them quite rigid to work with. On the other hand, there seems to be a (reluctant?) acceptance that these methods are necessary as they "force" organisations to be more accountable to their donors.

Section 5: Support donors could provide to assist NGOs

Respondents were subsequently asked to indicate what kind of assistance would be useful to them in three areas:

- Training
- Resources
- On-going support

In each case, seven statements were put to respondents and they were requested to choose only those three statements which they would prioritise. The results are presented in Figures 6.9 to 6.10 in descending order of statements most frequently selected.

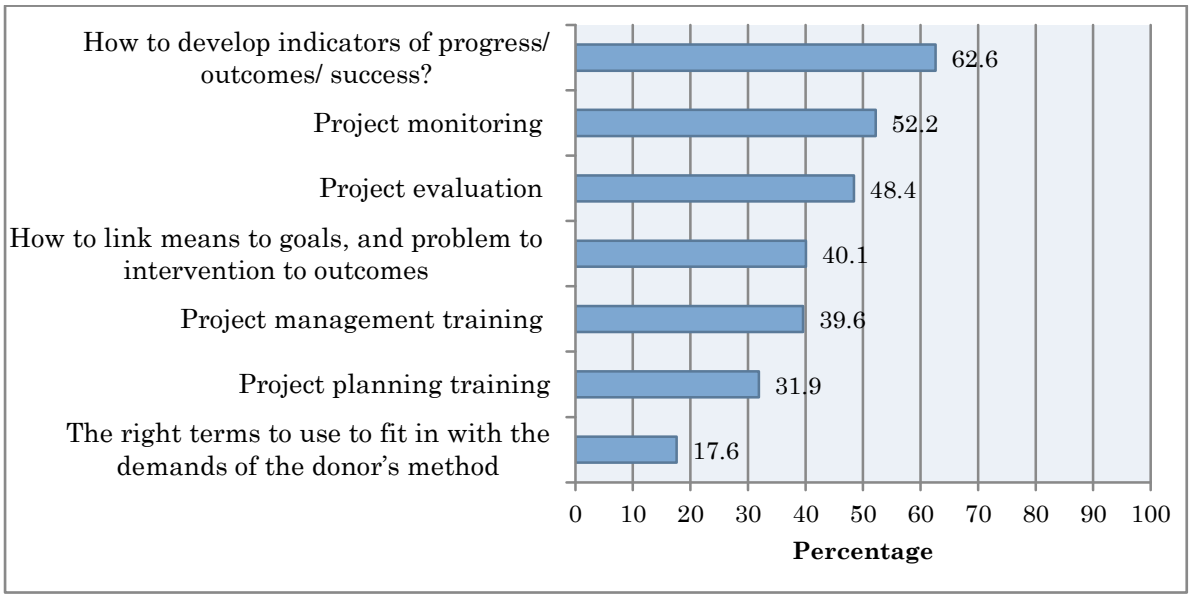


Figure 6.9: Areas of priority for training and knowledge (sorted by most frequently selected)

Respondents indicated that they most needed support in the development of indicators (62%) and project monitoring (52%). This focus on the importance of indicators was seen in Table 6.7 where NGOs indicated that indicators were the in top three issues that both they and donors felt were important. There is also a correlation between their low (18%) interest in support in understanding the terminology associated with donor models and Table 9 which showed that they did not find terminology difficult. This finding is interesting however, when seen against the background of Chapter 5, the review of model types, which indicated a shifting vocabulary from one model example to another.

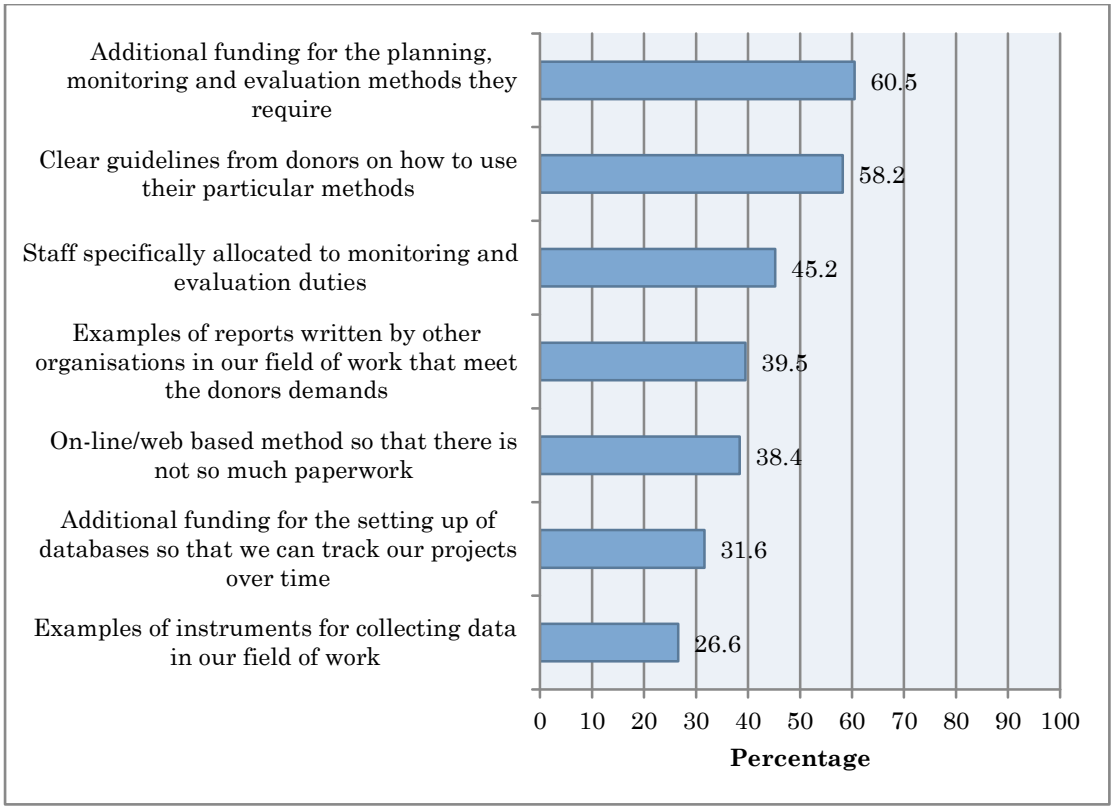


Figure 6.10: Areas of priority for resources (sorted by most frequently selected)

Respondents indicated that they needed financial support for planning, monitoring and evaluation (61%) and clear guidelines from donors on how to use methods (58%).The review of support manuals for this study did not find any of the donors supporting the surveyed NGOs to have a particular manual for grantees. But the review did show a plethora of support manuals freely available on the internet and plenty of on-line support (see Chapter 4). There, therefore, seems to be a mismatch between what NGOs indicate they require and what is available. This may also mean that donor requirements even vary from the overabundance of model requirements discovered in the review of LF and LM manuals.

NGOs indicated that they needed little (27%) help with instrument development.

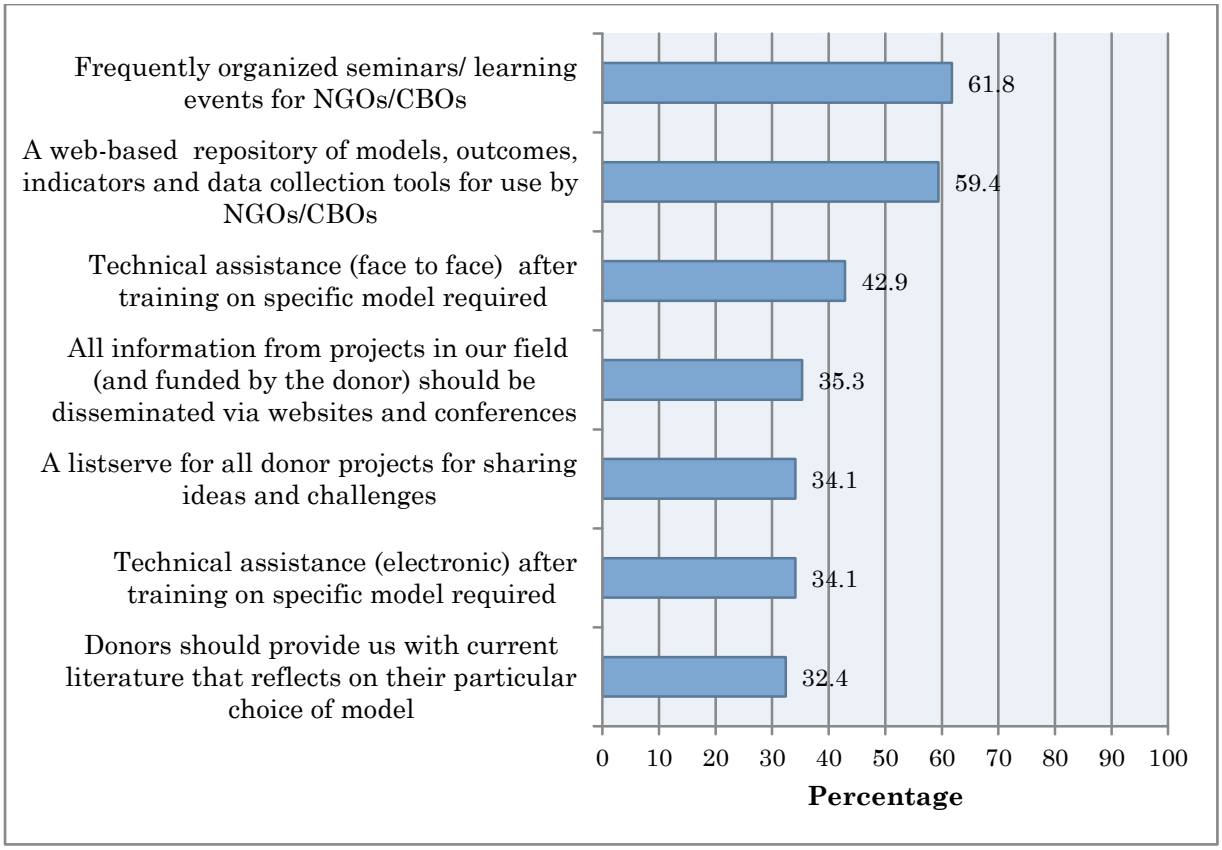


Figure 6.11: Areas of priority for on-going support (sorted by most frequently selected)

Figure 6.11 shows that respondents indicated that they needed frequently organised learning events (62%) access to a repository of support materials (59%). They show little (32%) interest in examining literature related to the donor's choice of model.

The responses to these questions were subsequently disaggregated by the NGO sector (the dominant area in which the NGO operates) in order to see whether there are any interesting differences in the demands for training, resources and on-going support across these sectors. (In each Table we highlighted those cells where the Sector percentage is higher by at least 5 percentage points than the Total percentage).

Table 6.10: Percentage of donors who regard training/skill as priority, by NGO sector

Training/skill	Citizen-ship (n=18)	Educa-tional (n=45)	Environ-ment (n=8)	Health (n=30)	Social/ welfare (n=68)	Other (n=13)	Total (N=182)
How to develop indicators of progress/outcomes/success	56%	56%	75%	50%	71%	77%	63%
Project monitoring	56%	56%	38%	40%	56%	54%	52%
Project evaluation	44%	67%	50%	40%	43%	38%	48%
Project management training	44%	29%	25%	57%	44%	15%	40%
How to link means to goals, and problem to intervention to outcomes	44%	40%	50%	43%	35%	46%	40%
Project planning training	39%	31%	25%	30%	34%	23%	32%
The right terms to use to fit in with the demands of the donor's method	6%	22%	38%	20%	18%	0%	18%

Discussion

- The Development of Indicators was identified as the biggest training/ knowledge need by all respondents (63%). Broken down by Sector, these proportions increased to 77% for Other Sectors, 75% for those working in the field of Environment and 71% for those NGO's working in the Social Welfare field.
- The second priority identified by respondents relates to training in Project Monitoring – probably not unrelated to the need identified for training in indicators. More than half (52%) of all respondents expressed this as the second highest priority. The fact that about 50% of respondents in most sectors (except for Environment) identified this as a high need which is an indication of how widespread this need is.
- Project evaluation training was expressly identified as a high priority by NGOs working in the Education Sector and Project Management Training received more than 50% of responses by NGOs working in Health.

- There were few differences across the sectors on the remaining three statements. The only other significant difference was recorded by NGOs in Environment with regard to training on the right terms to use.

Table 6.11: Percentage of donors who regard resource as priority, by NGO sector

Resource	Citizen-ship (n=17)	Educa-tional (n=44)	Environ-ment (n=8)	Health (n=29)	Social/ welfare (n=68)	Other (n=11)	Total (N=177)
Additional funding for the planning, monitoring and evaluation methods they require	59%	64%	75%	52%	56%	91%	60%
Clear guidelines from donors on how to use their particular methods	65%	52%	38%	52%	68%	45%	58%
Staff specifically allocated to monitoring and evaluation duties	41%	52%	13%	52%	46%	27%	45%
Examples of reports written by other organisations in our field of work that meet the donors demands	47%	36%	50%	45%	35%	45%	40%
On-line/web based method so that there is not so much paperwork	29%	45%	13%	48%	37%	27%	38%
Additional funding for the setting up of databases so that we can track our projects over time	24%	36%	50%	28%	32%	18%	32%
Examples of instruments for collecting data in our field of work	35%	14%	63%	24%	26%	45%	27%

Discussion:

- Additional funding for the planning, monitoring and evaluation methods donors require was identified as the biggest resource need by all respondents (60%). Broken down by Sector, these proportions increased to 91% for Other Sectors, 75% for those working in the field of Environment and 64% for those NGOs working in the field of education.
- The second priority identified by respondents relates to guidelines from donors for their particular method. More than half (58%) of all respondents expressed this as the second highest priority. This is seen as a particular need for those NGOs involved in citizenship and social welfare issues.
- Staffing was expressly identified as a fairly high priority by NGOs working in the Education and Health Sectors and examples of reports received more than 50% of responses by NGOs working in environment issues.
- On-line support was seen as important to NGOs involved in education (45%) and health (48%).
- Those NGOs involved in Environment issues felt fairly strongly about funding for databases (50%) and examples of data collection instruments (63%)

Table 6.12: Percentage of donors who regard on-going resource as priority, by NGO sector

On-going support	Citizen-ship (n=17)	Educa-tional (n=44)	Environ-ment (n=7)	Health (n=29)	Social/ welfare (n=63)	Other (n=10)	Total (N=170)
Frequently organised seminars/ learning events for NGOs/CBOs	59%	61%	86%	76%	56%	50%	62%
A web-based repository of models, outcomes, indicators and data collection tools for use by NGOs/CBOs	76%	59%	57%	62%	57%	40%	59%
Technical assistance (face to face) after training on specific model required	41%	32%	43%	38%	51%	60%	43%
All information from projects in our field (and funded by the donor) should be disseminated via websites and conferences	18%	48%	57%	28%	32%	40%	35%
Technical assistance (electronic) after training on specific model required	29%	36%	29%	38%	33%	30%	34%
A list serve for all donor projects for sharing ideas and challenges	35%	34%	14%	31%	35%	50%	34%
Donors should provide us with current literature that reflects on their particular choice of model	41%	30%	14%	28%	37%	30%	32%

Discussion

- Frequently organised seminars/ learning events were identified as the biggest on-going resource need by all respondents (62%). Broken down by Sector, these proportions increased to 86% for Environmental NGOs, 76% for those working in the field of Health and 61% for those NGOs working in the field of education.

- The second priority identified by respondents relates to a web-based repository of resources. More than half (59) of all respondents expressed this as the second highest priority. This is seen as a particular need for those NGOs involved in citizenship issues.
- Technical assistance was expressly identified as a fairly high priority by NGOs working in the social welfare (51%) and other (60%) sectors.
- There were few differences across the sectors on the remaining three statements.

The identification of the range of support required for NGOs talks to the limited capacity in some NGOs that Bornstein (2006:56) found in one of her studies. She explains how in one instance, despite training, the SA NGO could not meet the requirements related to the LF so its UK counterpart helped out:

> One UK director described, for example, how back funder insistence meant that LFAs and quantifiable indicators had to be passed on to the South African organizations although' often partners cannot understand the questions and many of them cannot really do [LFAs], despite training'. To satisfy its funders and maintain the flow of funds, the UK NGO produced the required documents.

This view of limited capacity within NGOs is not however a SA issue alone. Wallace & Chapman (2003:13) found the same in UK based NGOs:

> The implications of the logframes that are needed when bidding for EU and DFID contracts, the very detailed budgets with clear justifications of all budget lines, the need to explain everything clearly and logically from concept down to actual activities make preparing bids and then implementing and accounting for contracts is very demanding for NGOs. Specialised staff is often needed, or consultants are brought in to help with these processes. One large NGO said that UK NGOs are ill equipped to compete with private companies for many of these contracts, even though they feel they may be better placed to do good work on the ground.

Section 6: Strategies to improve donor/grantee relationships

The final section of the survey attempted to establish which strategies respondents would support in order to improve their relationships with their donors and funders. Five strategies were put to them and they were requested to rank-order these strategies from the most effective (nr 1) to the least effective (nr 5). The results are presented in Figure 6.12.

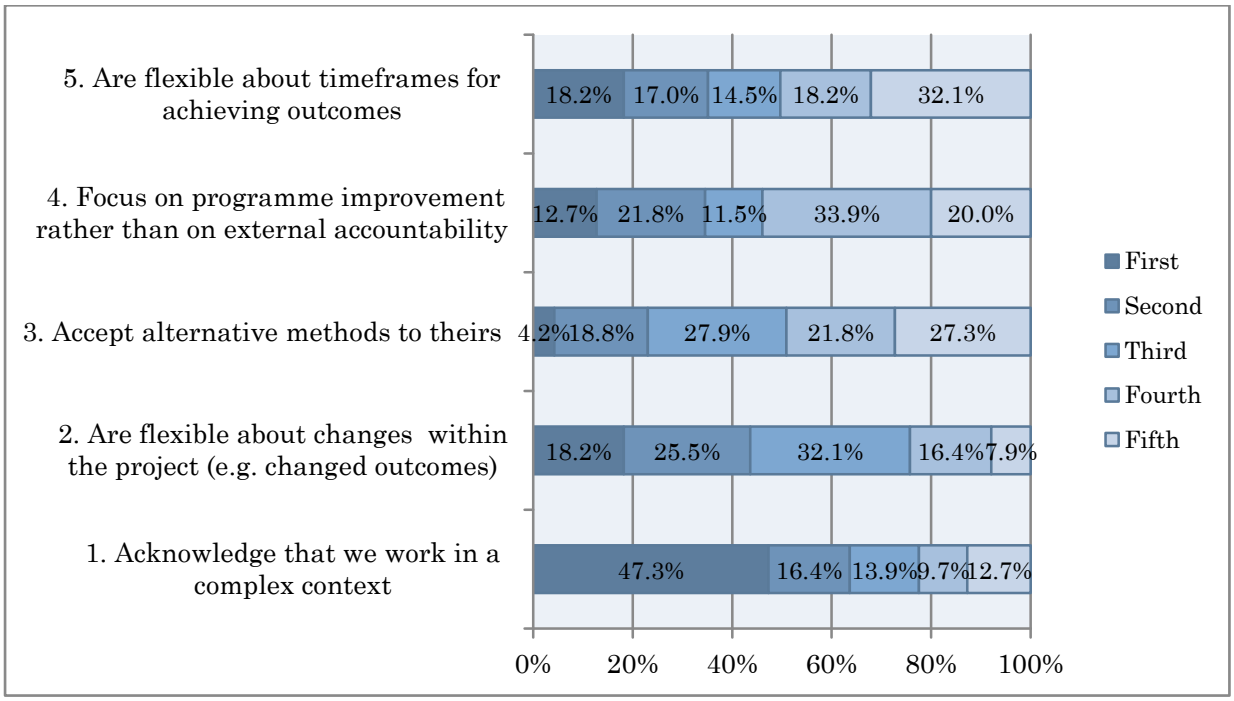


Figure 6.12: Strategies for improving donor relations – Percentage distribution of ranks by item

Discussion:

- NGOs predominantly favour a strategy that begins with acknowledging the complexity of contexts that they work in (47,3% selected this has possibly the most effective strategy).
- The next two strategies that recorded the highest first rankings (18,2% in each case) both concern the matter of flexibility: flexibility about timeframes for achieving outcomes and flexibility about changes made within the project.
- The fourth highest ranked strategy (12,7% as most effective strategy) concerns the need to focus on formative concerns (programme improvement) rather than concerns and demands for accountability.

These findings confirm earlier findings in the survey, presented in Table 6.7, which indicated the differing emphases in donor and NGO foci in the funding partnership. It also conforms to the researcher's own experiences working with NGOs and accords with Bornstein's 2003 study findings:

> Project-based, externally engineered and technically expert-oriented approaches miss the complexity of development challenges, negate local knowledge and politics and result in minimal, if any, positive changes for local 'beneficiaries' (2003:94)

One could argue that the three strategies that were rated to be the most effective in improving relationships with donors concern the same core issue, namely the complexity of managing development projects. Understanding this complexity logically requires being flexible about project deliverables and time frames.

Section 7: Overview

> South Africa is a particularly interesting country in which to examine donor-NGO relationships around funding and accountability requirements. When logical frameworks were first introduced in South Africa in the mid-1990s they were met with suspicion and dismissal; they are now widely used and were employed in some capacity in every NGO studied. (Bornstein 2006:54)

This quote from Bornstein arguably captures a widely-held view: few NGOs unambiguously "embrace" monitoring tools such as LMs and LFs. The researcher's experience of working with a wide range of NGOs over the years has shown quite clearly that many accept the demands from their funders in respect of these tools rather reluctantly and often more because of requirements of accountability and compliance rather than a deep-felt conviction that they add value to their own project monitoring and evaluation. This survey has shown the following key findings:

1. Almost all (90%) of sampled organisations indicated that some sort of donor specified approach was required which indicates how pervasive donor demands on SA NGOs are.
2. Of the 792 donors which fund the surveyed NGOs, 463 (58,4%) were categorised as international and 329 (41,5%) as South African donors. This mirrors the current shift in SA funding patterns generally – away from dependence on international donors.
3. The South African corporate sector and South African foundations are, now together, the biggest contributors to the NGOs surveyed.
4. These South African donors are mirroring the international donors in their demands for models for planning, monitoring, evaluating and reporting.
5. Whilst both surveyed NGOs and their donors have similar interests regarding accountability, outcomes and indicators they do not share the same concern around complexity of NGO work or participatory methods.
6. LFs are the most widely used model in surveyed NGOs, but both LFs and LMs are used for the functions of planning, monitoring, evaluation, reporting and reviewing. They are used for reporting more than for the other functions.
7. The donor models and methods are perceived by NGOs as rigid, but the terminology associated with the models is not regarded by NGOs as complex or confusing.

8. The most urgent need for training is with regard to the development of indicators and the most urgent need for resources is to support the donors' demands in terms of planning, monitoring and evaluation.
9. NGOs require donors to primarily understand the complex environments in which they work in order to improve the funding relationship.

The survey clearly indicates some overlap between NGO and donor needs in the funding relationship, but also a degree of tension regarding donor focus and demands.

The NGOs surveyed recommend a number of strategies to ameliorate the tension particularly

- Donors need, in some way, to acknowledge the complexity of the contexts in which NGOs work which should result in flexibility around timeframes for achieving outcomes and changes made within the project.
- Surveyed NGOs recommended a shift to formative concerns (programme improvement) rather than concerns and demands for accountability.

Bornstein's studies in 2003 and 2006 indicated there are ways in which NGO requirements and those of their donors can be negotiated. For example:

- aligning varied reporting formats across donors:

  Two directors met with funders as a group and settled upon a single reporting format and schedule for all projects. This significantly cut down the amount of time spent preparing reports. At another organisation, staff initiated evaluation of donors, rather than it only being the other way around, in order to encourage two-way accountability and learning (Bornstein, 2003:399)
- utilising more qualitative indicators

  Quantitative rather than qualitative indicators could be used to advantage: the number of people attending a training session could be high, or have a high proportion of women, and could be easily measured to demonstrate success; qualitative measures of how much was understood or subsequently used, in this example, were largely avoided. Project directors and managers could manipulate the M&E reporting systems rather than being ruled or disciplined by them. (Bornstein, 2006:55)

Without these strategies the limited capacity within some NGOs to address complicated model and reporting requirements, results in the "use of consultants, reliance on the

international counterpart, and staff anxiety and self-doubt) thereby limiting consolidation of new competences within the smaller NGOs" (Bornstein, 2006:57). More importantly, if negotiated strategies are not put in place to assure that both parties in the funding partnership understand and address each other's needs, Bornstein warns that a far more dangerous strategy is adopted by SA NGOs to meet donor requirements – deception:

> A director described how managers took their field experiences and made up numbers for the reports rather than imposing artificial targets and incomprehensible reporting systems on community members; the creative reporting was depicted as protecting community members and processes from the destructive influences of the logical framework (Bornstein, 2006:55)

Bornstein's 2006 study showed that capacity of NGOs is the key criterion which determines to what extent NGOs in SA can meet donor demands appropriately. In SA (as everywhere else) there are NGOs who have a greater capacity to engage with donor demands and those who may resort to deceit as they simply cannot meet donor demands. It is interesting to note that SA donors followed the models of international donors completely, despite all the challenges noted in literature. More interesting of course, is that they did not develop a process or model that took the development agenda of South Africa into account.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

The overarching aim of the study was to provide an in-depth understanding of the development of logic models and logical frameworks in order to better understand the experience of South African NGOs when engaging with donors and their demands for accountability through models of planning, monitoring, evaluation and reporting. The study is not only descriptive, but also analytical in that it developed various typologies to explain underlying patterns in the data reviewed. This chapter presents the main findings of the study according to the two main objectives of the study:

1. to understand the landscape of Theory-based evaluation (TBE) and the models which have come to be associated with TBE
2. to understand the response of South African NGOs to the demand of donors in terms of the models associated with TBE.

These two aims led to the development of five key questions:

1. What and who contributed to the development of Theory-based evaluation (TBE)?
2. How did the models associated with Theory-based evaluation develop over time?
3. What are the variations in models facing programme staff or evaluators when faced with the task of model development?
4. What are the demands of donors in relation to these models when funding SA NGOs?
5. What is the practice of programme staff when faced with donor demands regarding model development?

The discussion in this chapter is organized according to these five research questions.

7.2 Research question 1: What and who contributed to the development of Theory-Based Evaluation (TBE)?

There is no agreement in evaluation literature about the exact origins of TBE. Coryn *et al.*(2011) claim that the origins of TBE can be traced to Ralph Tyler in the 1930s while many evaluation scholars (Astbury & Leeuw, 2010; Bickman, 2000; Brousselle *et al*, 2007; Cooksy *et al.*, 2001; Davidson, 2000; Friedman, 2001; Hansen, M.B. & Vedung, 2010, Rogers *et al.,* 2000) state that the work of Suchman (1967) was where TBE began. Weiss (1997b) in her attempt to trace the history of TBE states that although Suchman

discussed the notion of programme theory in 1967, it was her 1972 publication that first raised the idea of basing evaluation on a programme's theory.

These views are all based on the premise of examining the developments of concepts of TBE in the evaluation domain only. This study argues that Gargani (2003) presents a stronger argument for the origins of TBE than those that focus on early evaluators only. Gargani (2003) claims that there were forces at work in fields outside of evaluation that initiated developments within evaluation.

The discussion of the development of TBE was organized into four phases in the development of TBE:

1. The seeds of TBE
2. The roots of TBE
3. The establishment of TBE
4. The current state of TBE

We summarize the main conclusions of these discussions below.

7.2.1 The seeds of TBE (1909 - 1959)

The original "seeds" of TBE can be traced to contributions from various domains. Research in the fields of management, education and curriculum design already from 1909 (long before the work of Tyler, Suchman and Weiss in evaluation) were focussing on:

- trying to understand the core elements of a process - particularly Taylor (1911) and Bobbitt (1913);
- the sequence of core elements for maximum effectiveness and efficiency - (Bobbitt (1913), Charters (1909) and
- how best to represent processes in their field - particularly Forrester (1956) and Kirkpatrick (1959).

All three processes above are linked to Coryn et al's (2011) description of developing a programme theory described in detail in Chapter 2. Figure 7.1 depicts the influence of early researchers and their work in scientific management and job analysis (Taylor), activity analysis (Bobbitt), scientific curriculum (Charters) and the depiction of causal

processes (Forrester) on early evaluators such as Tyler (education) and MacMahon (health).

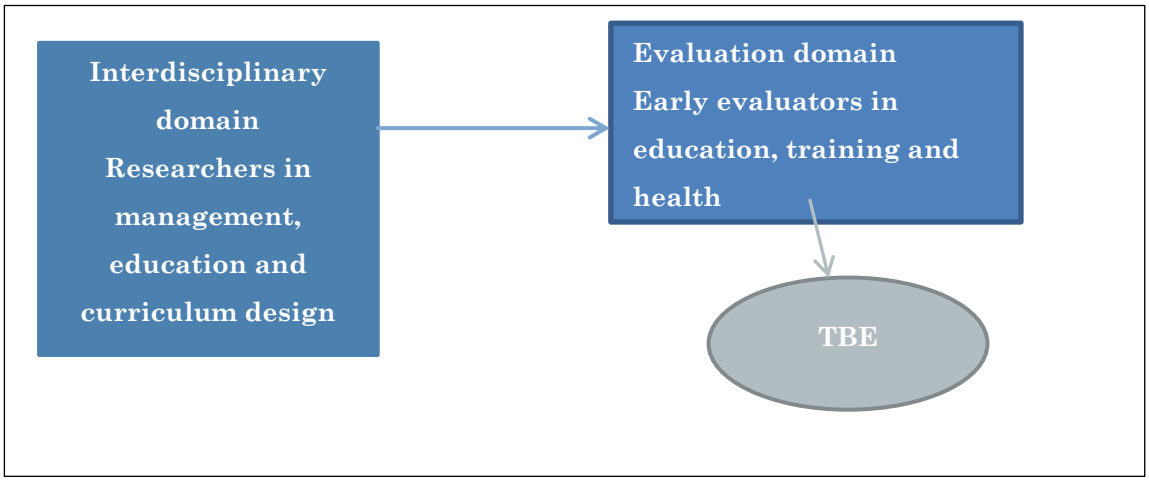


Figure 7.1: The seeds of TBE (1909-1959)

The fact that the seeds of TBE were interdisciplinary in nature is a typical feature of emerging fields, as researchers have no alternative but to borrow concepts, models, classification and ideas from more established disciplines. At this stage influences outside evaluation were stronger than those from within the field of evaluation.

7.2.2 The roots of TBE (1960 - 1979)

The historical review of TBE found that the key difference between Phase 1 and 2 in the development of TBE was that the locus for development of ideas around using theory shifted from other domains into that of evaluation in Phase 2. Gagne's work in education on representing objective hierarchies as flow charts had some influence in this phase, particularly on the work of Bennett but the rest of the contributions from this phase originated in the evaluation domain. The major focus in the first part of this phase was on the representation of logic and Stake's tabular format, Stufflebeam's CIPP model, Weiss's pathway diagrams and Bennett's hierarchy of outcomes were all developed in this phase. These representations of programme theory cover almost all the formats used currently except for narrative and Wholey would add that in the next phase. Weiss's theoretical input in this period was critical as it would lay a foundation for evaluators who followed in Phase 3. The development of the professional associations for evaluators in 1975 and 1976 provided the perfect forum for evaluators to debate

issues concerning the innovative ideas of this phase and flesh out the evaluation processes that would utilise the representations that had been developed.

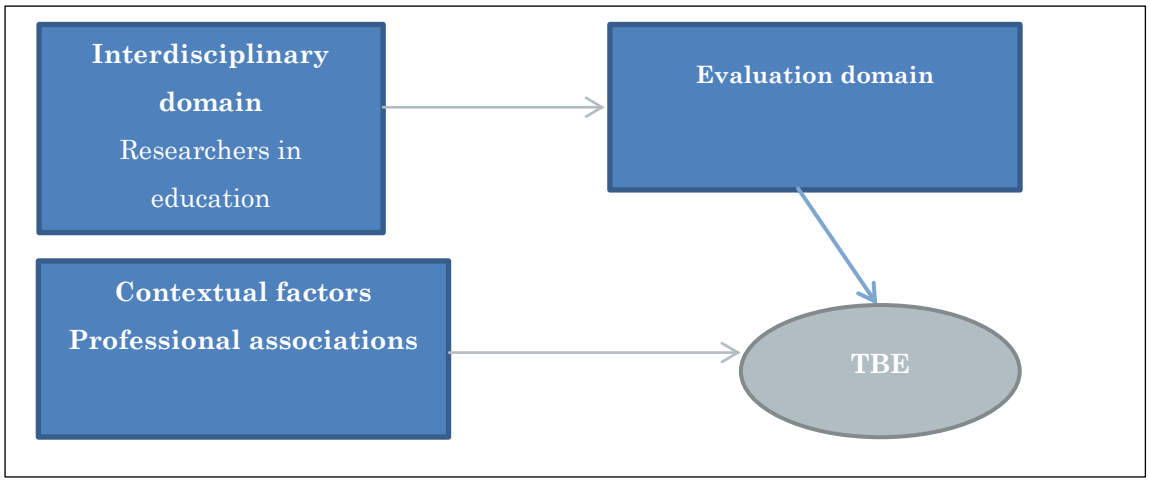


Figure 7.2: The roots of TBE (1960-1979)

Figure 7.2 shows the diminishing influence of researchers from outside of the evaluation domain and the growing uptake of the notion of using theory in evaluation. The development of professional associations towards the end of the phase can be seen as an enabling factor.

7.2.3 The establishment of TBE (1980 – 1999)

By the 1980s TBE was an established alternative evaluation approach to method-driven evaluation that had been the key approach for so many years. Chen, Rossi and Weiss's scholarly contribution to the field of TBE added to the credibility of the approach and Wholey's assimilation of Evaluability Assessment into USA government evaluation processes ensured that TBE had emerged from a set of disparate roots to become an established evaluation approach. One of the key ways in which advocacy for TBE occurred was through three special editions on the use of programme theory in the newly established evaluation journals. Leonard Bickman played a key role in this advocacy.

Figure 7.3 shows that the influence of other domains had now been removed completely and contextual factors associated with the evaluation domain and USA government accountability were on the rise.

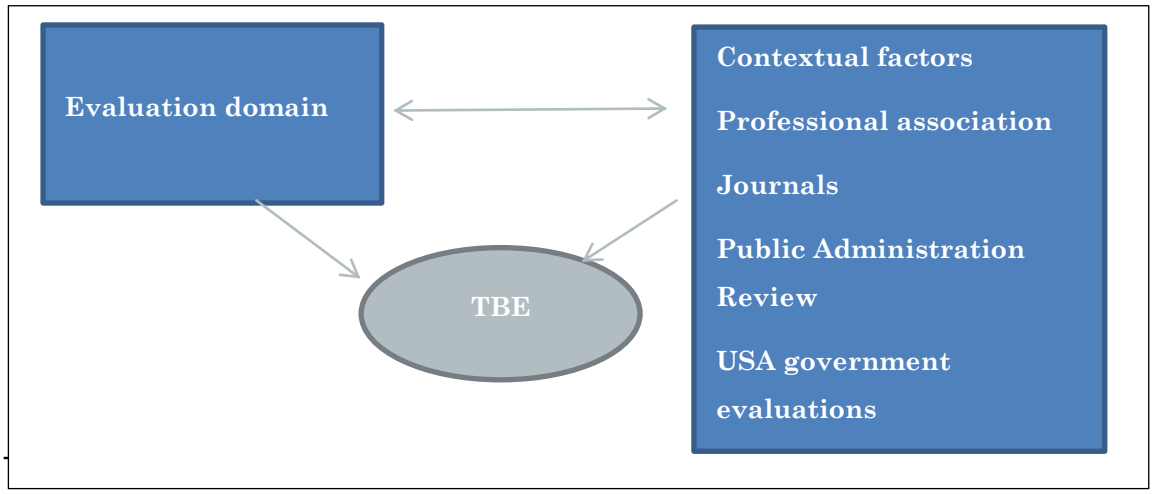


Figure 7.3: The establishment of TBE (1980 – 1999)

In the discussion of the current state of TBE, it was found that - despite growing interest and literature on the TBE approach - few studies apply the approach in practice (McLoughlin & Walton, 2010). Many evaluators utilise programme theory in evaluation but carry out four of five of Coryn et.al's essential steps in TBE. The step that is omitted is the fifth – the testing of theory. There is also growing awareness of the challenges in using TBE – the capacity required in evaluators to carry it out as originally stipulated, the lack of standardisation of terms associated with the approach, the resistance to both the approach and the models associated with it (Bornstein 2003, 2006).

TBE is used most frequently in the health sector, which originally influenced the development of TBE. More recently, TBE has been used for evaluating military operations in the United States (Williams & Morris, 2009) as well as in a variety of other fields and contexts (Trochim, Marcus, Masse, Moser & Weld, 2008; Urban & Trochim, 2009; Weiss, 1997a). The endorsement (by practitioners and scholars alike) of the models associated with TBE like LMs and LFs have ensured that it is still seen as a relevant approach to evaluation.

7.3 Research question 2: How did the models associated with Theory-Based Evaluation develop over time?

The discussion of findings in this section is linked to the phases of development of logic models (LMs) and logframes (LFs) as presented in Chapter 3.

7.3.1 Logic models

Phase 1 (1933 - 1969)

This chapter showed that a number of contextual factors influenced the development of the first LM by Malcolm Provus. In the academic sphere, there was a growth and refinement of the theories and methods of social and business sciences, and the attempt to apply these theories and methods to social problems. At the same time, there was an expansion of government social programmes in the United States of America in the 1930s which resulted in a spike in demand for evaluation. The growth in social programmes led to a simultaneous growth in programme accountability, as tax payers' money was being spent on so many social programmes. This resulted in an increasing need for a tool which was focused and could demonstrate simply and clearly what programmes aimed to achieve.

As in the case of the early development of TBE, during this early period of logic model development, the strongest influences were external to the evaluation domain. Forrester (in the fields of computing and management) and Gagne (an educational psychologist) can be seen as contributors to the format of LMs whilst Stake who worked in the field of education developed the Description Data Matrix which contributed to the components of LMs.

Phase 2 (1970 – 1979)

Growing public criticism of the high expenditure on social programmes in the USA in this phase resulted in a call for federal programmes and NGOs to become more accountable. The professionalisation of evaluation was underway and universities added institutional legitimacy to the field of evaluation by developing and offering courses in evaluation.

The key contributors to this phase were Provus who developed the first logic models as part of his work on evaluation of education programmes, Stufflebeam who developed the CIPP evaluation process and Bennett who developed some of the first outcome chains. Weiss began her advocacy of TBE in this phase and experimented with representations of programme logic.

Phase 3 (1980 - 89)

In the 1980s the demand for evaluators increased to such an extent that universities began offering graduate courses and degrees in programme evaluation. Government departments in the USA and elsewhere began using graphics to represent the theory underlying their programmes. The key contributor to this phase was Wholey as he assimilated both evaluability assessment and the use of logic models into USA federal programmes.

Phase 4 (1990 - 1999)

This phase of LM development saw a huge increase in the usage of LMs as donors of all types (governments, government development agencies, foundations and the corporate sector) incorporated both LMs and LFs into their planning, monitoring, evaluation and reporting demands. Figure 7.4 shows the range of influences on the development of LMs over the years. These range from forces in the academic, evaluation, government, donor and management fields.

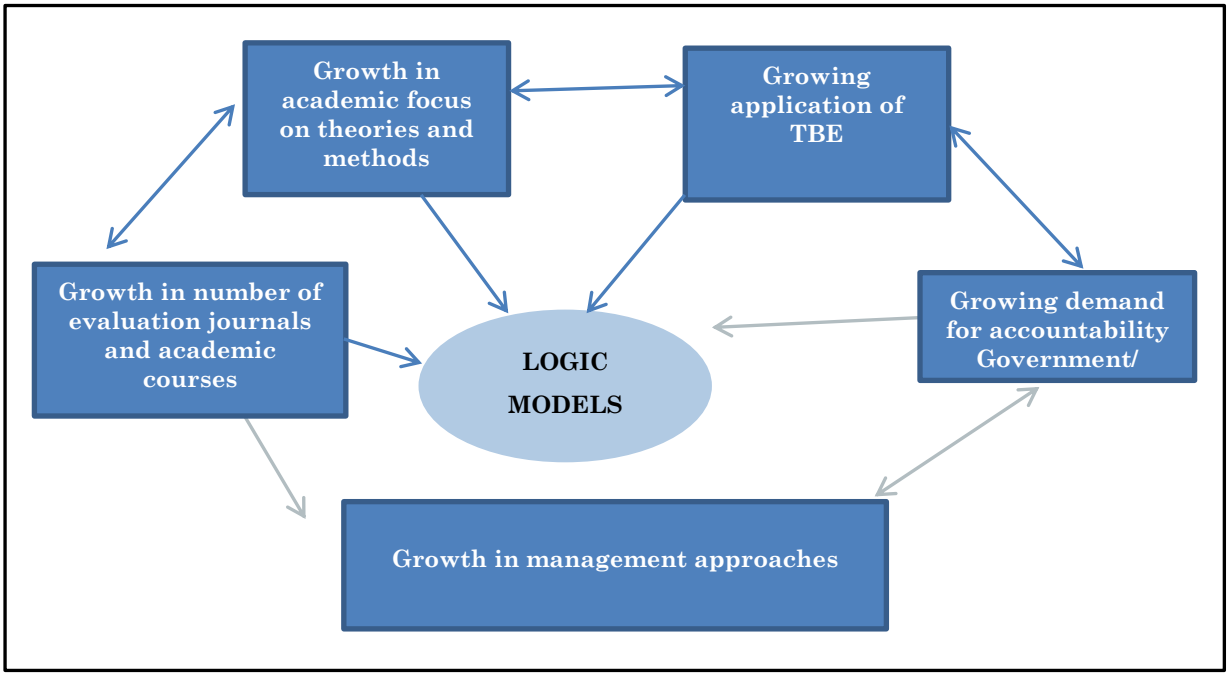


Figure 7.4: Influences on the development of logic models

7.3.2 Logframes

In the discussion of the origins and development of Logframes "five generations" of LFs were identified (based on a classification by Sartorius 1996). Practical Solutions Incorporated (a consultancy) was involved in the development of the first LF for USAID (1980:59). The USAID model is regarded by Sartorius as a first generation model as the manual presenting the model focuses simply on the matrix. The second generation of LFs had a much greater focus on the LFA - an example of this is ZOPP 1980 which was involved a participatory process. The third generation of LFs were part of a widespread uptake of models and accompanying manuals to support their implementation (NORAD 1990, DANIDA 1996, SIDA 1996, GTZ 1997, Asian Development Bank 1997, NORAD 1999 and UNHCR 1999)). The LF had become part of standard procedures for programme and project management and evaluation. This was followed by a Fourth Generation LF where users attempt to use the LFA in a more flexible way, accompanied with the use of participatory methods within the project cycle. GTZ was involved in these modifications and made substantial changes to the process and now use a planning framework with few restrictions. In the mid-90s, USAID and CIDA modified the LFA to include a monitoring and evaluation approach known as results-based management. It is clear that while the government development agencies may have started out using a similar format of LF, over time they began branding the LFA approach with their own philosophy and strategic objectives. The LF has now been interpreted differently within different philosophies of funding, development aid and philanthropy. Some of the donors were clearly only interested in delivery or outputs, some wanted to see whether their money was used effectively or wanted to ensure compliance.

What we see in the use of LF and LFA today (the fifth generation) is a strong movement towards a Results Based Management shift. According to Local Livelihoods (2009:3):

> Results Based Management is a shift from focusing on the inputs and activities (the resources and procedures) to focusing on the outputs, outcomes, impact and the need for sustainable benefits (the results of what you do). Results are the changes occurring as an effect of a development intervention and imply that a change of behaviour by individuals, groups of people, organisations, government bodies or society has taken place

It is clear from these summaries that the origins and later development in the uptake and use of both the LM and LF to some extent followed similar trajectories but that there are also distinct differences. As with the development of any "innovation", different influences in a wide variety of fields and disciplines often come together to "spark" the initial novel idea. Of course, in both cases, these "innovations" emerged within a specific demand environment (political accountability). In both cases, as we also saw in the later chapters of this study, over years the original LM and LF "morphed" into different variations. This kind of "specialization" correlates with increased uptake by different users with different interests. The latter stages of the development of both approaches would increasingly be mainstreamed through links with the formal evaluation scholarly community. But there are also differences in the development trajectories. The most notable difference concerns the more academic origins of the LM compared to the LF which had its origins in government development agencies. Although this difference arguably did not have a significant impact on the actual contents of the LM and LF respectively, one could argue that it impacted on the rate of uptake of these tools. As indicated later, the logframe would eventually become the preferred approach (at least amongst SA NGOs), a fact that could relate to its origins within the development community.

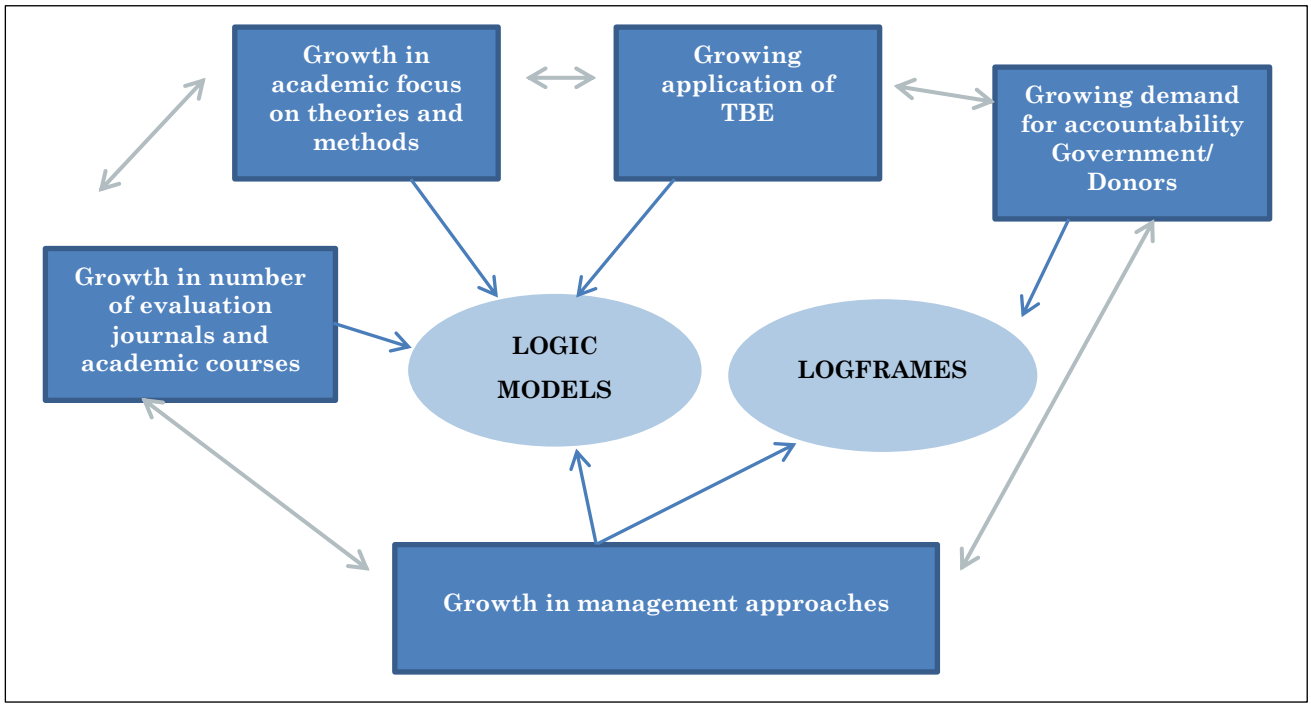


Figure 7.5: Influences on the development of logic models and logical frameworks

Figure 7.5 originally presented in Chapter 3 shows the five key influences in the development of LMs and LFs. Three of these – the growth in the use of TBE, the demand for accountability and developments in management approaches affected both types of models. The other two influences were particular to the development of logic models alone.

7.4 Research question 3: What are the variations in models facing programme staff or evaluators when faced with the task of model development?

Chapter 6 presented typologies for both LM and LFs. The aim with the development of these typologies was to "reduce" the heterogeneity of seemingly disparate and diverse LMs and LFs within a manageable classification system. Two classification principles underpinned both typologies: viz. extension and elaboration.

The principle of "extension" was introduced to refer to the process whereby components are added to the model which then extend the causal chain. The principle of "elaboration" was introduced to refer to the process where components which add detail to or expand on exiting components were added to the "standard" case. In addition, the LM typology incorporates a third classification criterion – whether the model was linear or not. This does not apply to LFs as the matrix format means that all LFs are linear in nature.

The review of literature for this study did not uncover any comprehensive LF typologies. The work of Rolf Sartorius (1996) resulted in a grouping of LFs into "generations" which broadly grouped LFs into categories which followed changes in the approach to developing the LFs. But the typology of LMs presented in this study builds on the innovative work of Funnel and Rogers (2011) in this regard.

LM Typology

Using the United Way model (1996a:vii) as the standard or reference exemplar of a LM, a typology of ten types was developed. Essentially there were 4 major groupings within the typology which are based on the number of paradigm case components contained in the model. Through the classification of 120 models it was found that the most frequent LM types are:

- Type 2 – Extended linear models which consist of 4 United Way core components with additional components which extend the causal chain in a linear format (n=39)
- Type 9 - No designated component linear models which contain no labelled paradigm case components in a linear format (n=31)
- Type 6 - Extended hybrid linear which have 3 or fewer paradigm case components with additional components which extend the causal chain in a linear format (n=16)

There were three key clusters of modifications of the paradigm case over time which are linked to the two classification principles that underpin both typologies:

1. Extension - the first version of United Way model was very specific and components were fairly limited and so components were added to and components were disaggregated to make the model more user-friendly and a better representation of how interventions unfold over time. Extension occurred mainly through disaggregation of *outcomes into initial/immediate, intermediate and long term* and the addition of a *target group* or *participants*.

2. Elaboration - the second key cluster of modifications began when the model began to be used for purposes other than design. Inclusion of components such as *indicators*, *sources of data*, *external factors* suggest that the models were being used for monitoring and evaluation purpose as well. This is described earlier in the chapter as "logic in use".

3. A combination of extension and elaboration – the second version of United Way model (2008:26) incorporates both extension and elaboration and presents the most comprehensive version of LMs. In this second version of the United Way model the concept of programme theory is also separated from the model and highlighted as an

issue to be addressed. This can be seen as critical in a field where models often try and do both or claim to do one and actually do the other.

The influence of the UWEX group of models must be noted as their particular "branding" in terms of particular components and colour schemes influenced the development of a number of models reviewed. Three models in particular seem to have influenced types of formats and components - USAID, UWEX and W.K. Kellogg as these three models and manuals are often referenced in the work of others.

LF typology

Our review of LFs resulted in two fairly distinct groupings of models which subsequently became the basis of a typology of two major types (with some derivative sub-types). The first type, Type 1 refers to the USAID (1980:59) model and the second, Type 2 which refer to the NORAD (1990:17) model. Essentially we ended up with 5 major groupings in this typology:

- Standard type 1 – models that are an exact match for USAID (1980:59)
- Extended type 1 – models that extended the causal chain of Standard Type 1
- Standard type 2 - models are an exact match for the NORAD (1990:17)
- Elaborated type 2 – models elaborates on the horizontal components of Standard Type 2
- Extended and elaborated type 2 - models that add to both the vertical and horizontal components of the Standard Type 2 model

Through the classification of 29 models it was found that the most frequent LF types are:

- Type 1a - Extended type 1 – models that extended the causal chain of the USAID model (1980:59) (13)
- Type 1 models that are an exact match for USAID (1980:59) (10)

There were two key clusters of modifications that impacted on the modifications of LF over item:

1. Extension - the USAID model (1980:59) collapsed *input* and *activities*. The addition of the *activities* component generated the largest number of modified models in the typology. Other extension such as *component objectives* (AusAid) has seen very little

uptake. The key extension for the Type 2 model, NORAD (1990:17), was the disaggregation of objectives. There was also very little uptake of this extension.

2. Terminology – NORAD's (1990:17) use of *Development objectives / immediate objectives* caused a drift from the original USAID model. If this had not occurred the grouping of LFs overall would all be much closer. This shift in terminology was not useful in the long term as NORAD's second version in 1996 reverted to the USAID vertical component terminology while keeping its collapsed horizontal columns – where *Indicators* and *MoV* are in one column.

It is evident from the development of the typologies for both LMs and LFs that some modifications to the paradigm cases were useful and improved the model. However, some of the more "cosmetic" changes (especially the introduction of new terminologies) do not seem to be particularly relevant or added specific value. It is clear that the plethora of models, both LM and LF have occurred not always due to modifications for improvement of the model but purely "branding" of the donor or developing agency.

7.5 Research question 4: What are the demands of donors in relation to these models when funding SA NGOs?

1. This question was addressed through an empirical study that consisted of a postal survey of NGOs in South Africa. The key findings of the survey were:
2. Of the 792 donors which fund the surveyed NGOs, 463 (58,4%) were categorised as international and 329 (41,5%) as South African donors. This mirrors the current shift in SA funding patterns generally – away from dependence on international donors. The South African corporate sector and South African foundations are, now together, the biggest contributors to the NGOs surveyed.
3. South African donors are mirroring the international donors in their demands for models for planning, monitoring, evaluating and reporting.
4. Whilst both surveyed NGOs and their donors have similar interests regarding accountability, outcomes and indicators they do not share the same concern around complexity of NGO work or participatory methods.
5. LFs are the most widely used model in surveyed NGOs, but both LFs and LMs are used for the functions of planning, monitoring, evaluation, reporting and reviewing. They are used for reporting more than for the other functions.

6. The donor models and methods are perceived by NGOs as rigid, but the terminology associated with the models is not regarded by NGOs as complex or confusing.
7. The most urgent need for training is with regard to the development of indicators and the most urgent need for resources is to support the donors' demands in terms of planning, monitoring and evaluation.
8. NGOs require donors to primarily understand the complex environments in which they work in order to improve the funding relationship.

The survey clearly indicates some overlap between NGO and donor needs in the funding relationship, but also a degree of tension regarding donor focus and demands. The NGOs surveyed recommend a number of strategies to ameliorate the tension particularly

- Donors need, in some way, to acknowledge the complexity of the contexts in which NGOs work which should result in flexibility around timeframes for achieving outcomes and changes made within the project.
- Surveyed NGOs recommended a shift to formative concerns (programme improvement) rather than concerns and demands for accountability.

7.6 Research question 5: What is the practice of programme staff when faced with donor demands regarding model development?

NGOs have limited capacity to address complicated model and reporting requirements as demanded by donors and funders. This often results in the "use of consultants, reliance on the international counterpart, and staff anxiety and self-doubt) thereby limiting consolidation of new competences within the smaller NGOs" (Bornstein, 2006:57). More importantly, if negotiated strategies are not put in place to assure that both parties in the funding partnership understand and address each other's needs, Bornstein warns that a far more dangerous strategy is adopted by SA NGOs to meet donor requirements – deception:

> A director described how managers took their field experiences and made up numbers for the reports rather than imposing artificial targets and incomprehensible reporting systems on community members; the creative reporting was depicted as protecting community members and processes from the destructive influences of the logical framework (Bornstein, 2006:55)

Bornstein's 2006 study showed that capacity of NGOs is the key criterion which determines to what extent NGOs in SA can meet donor demands appropriately. In SA (as everywhere else) there are NGOs who have a greater capacity to engage with donor demands and those who may resort to deceit as they simply cannot meet donor demands.

This study has shown that SA NGOs adhere to the demands and requirements made by donors. These demands not only speak to the necessity to use some tool for planning, monitoring and reporting, but in fact also which specific tools to use. Our own experience in working with NGOs confirms this practice. International agencies, specifically, often have very specific demands on the types of templates as well as the indicators and targets to include in these templates. The survey showed, however, that such an adherence to donor demands does not necessarily mean that the NGOs accept and agree with what is being required. There is a distinct scepticism amongst NGOs about the actual necessity of some of these requirements. Conversely, a majority of NGOs indicated that donors do not always understand the specific conditions that NGOs face in their work. The empirical results indicate that most NGOs view tools and approaches such as the LM and LF as necessary (and in some cases also quite useful) but this comes with a certain cost – these tools are often seen as very rigid and their application is quite time-consuming.

7.7 Further research

This study has provided insights into the historical development of TBE and its associated models – a domain that has not been well documented. We showed that TBE has its roots in fields beyond the evaluation domain. Over the years it has spawned a range of representations that have attempted to represent the logic and theory of interventions. Some of these representations are more closely linked to TBE (LMs and TOCs) and others not so clearly linked (LFs). During the course of this study it also became evident that the plethora of model formats and components cannot always be plausibly explained. An interest in promoting one's own "brand" may actually be the best explanation – at least of some of the variations that we identified. A comprehensive study of donor manuals, ethos' and philosophy could shed more light on this issue.

Our empirical survey of NGOs revealed an interesting and quite rich picture of the landscape of South African donors and their demands with regard to the models linked to TBE. We would suggest that follow-up studies that involve in-depth qualitative case studies of a smaller number of NGOs could be quite useful in establishing how they engage with donor demands and what strategies they employ to survive donor demands. This would build on the work of Bornstein (2003, 2006) as her studies were developed around the idea that the donor demands made on SA NGOs were coming from the North. The evidence from the survey is that these demands are now being made by South African donors who are emulating the planning, monitoring, evaluation and reporting demands previously made by their Northern counterparts. Whether this is the case, and if so, to what extent, can only be established through more ethnographic approaches.

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APPENDICES

Appendix 1: Definitions of Logic Models

	Full quotation analysed for Chapter 3
Conrad et al, 1999[94]	Conrad and colleagues (1999) defines the logic model as ". . . a graphic representation of a program that describes the program's essential components and expected accomplishments and conveys the logical relationship between these components and their outcomes"
Cooksy et al 2001	Logic models depict assumptions about the resources needed to support program activities and produce outputs, and the activities and outputs needed to realize the intended outcomes of a program (United Way of America, 1996; Wholey, 1994). These assumptions are often referred to as program theory (Bickman, 1987, 1990; Weiss, 1997).
Funnell and Rogers 2011	A representation of a program theory, usually in the form of a diagram
Hawkins S. et al 2009	A logic model is a depiction of an organization's approach toward a desired outcome. Logic models typically include a series of if–then statements, linking resources needed within the community and conditions that need addressing within the community, the activities employed to meet those needs and address those conditions, and the short-term outcomes resulting from the activities and the likely long-term impacts as multiple outcomes are achieved (Wandersman & Linney, 1991)
Kumpfer et al, 1993[95]	A logic model can be described as a logical series of statements linking the conditions a social service program is intended to address, the activities that will be employed to address specific conditions and the expected outcomes of activities (Kumpfer, Shur, Ross, Bunnell, Librett & Millward, 1993).
McLaughlin & Jordan, 1999[96]	A logic model is a graphic display or 'map' of the relationship between a program's resources, activities, and intended results, which also identities the program's underlying theory and assumptions (McLaughlin & Jordan, 1999; Renger & Titcomb, 2002).
Patton M 2002	A logic model or theory of action depicts, usually in graphic form, the connections between program inputs, activities and processes (implementation), outputs, immediate outcomes, and long-term impacts. I distinguish a logic model from a theory of change. The only criterion for a logic model is that it be, well, logical, that

[94]Cited in Scarinci, I.C. et al. (2009 p 222)
[95]Cited in Julian, D., Jones, A. & Deyo, D. (1995 p 333)
[96] Cited in Kaplan, S.A & Garrett, K.E (2005)

	is, that it portrays a reasonable, defensible, and sequential order from inputs through activities to outputs, outcomes, and impacts. A theory of change or theory of action, in contrast, bears the burden of specifying and explaining assumed, hypothesized, or tested causal links. Logic models are descriptive.
Kaplan and Garrett 2005	A logic model is a graphic display or 'map' of the relationship between a program's resources, activities, and intended results, which also identifies the program's underlying theory and assumptions (McLaughlin & Jordan, 1999; Renger & Titcomb, 2002).
Rogers, P 2008	In this article, the term 'logic model' is used to refer to the summarized theory of how the intervention works (usually in diagrammatic form) and 'programme theory evaluation' is used for the process of developing a logic model and using this in some way in an evaluation.
Frechtling, J. (2007)	Basically, it is a tool that describes the theory of change underlying an intervention, product or policy. It characterizes a project through a system of elements that include components and connections, with context being an important qualification.
Donaldson S.I. (2007)	A very popular tool for depicting program logic and theory in recent years is called a logic model. A logic model is an adaptable tool that is now being used across a range of evaluation approaches to assist with the program planning, design and evaluation
CDC 2003	Simply put, a logic model visually links program inputs and activities to program outputs and outcomes, and shows the basis (logic) for these expectations. The logic model is an iterative tool, providing a framework for program planning, implementation, and evaluation
Wilder Research 2009	In simple terms, a logic model is a picture of your theory – a drawing that shows how one thing leads to the next, like a flow chart
Harvard Family Research 2009	A logic model illustrates the connection between what an organization does (e.g., its activities) and what it hopes to achieve (e.g., its goals and outcomes). A logic model could look like a flowchart, with key strategy elements arranged inside a series of boxes connected by arrows, or it could be formatted within a table. Regardless of the design, a logic model represents the progression of how various parts of a strategy connect to one another.
Harvard Family Research n/d	Logic models are a concise way to show how a program is designed and will make a difference for a program's participants and community. On one sheet of paper, a logic model summarizes the key elements of your program, reveals the rationale behind your approach, articulates your intended outcomes and how they can be measured, and shows the cause-and-effect relationships between your program and its intended outcomes
Medical Reserve	A logic model is a visual representation of how your MRC unit works. It provides

Corps n/d	the logic for why you do what you do, and how your activities relate to the outcomes you are hoping to accomplish. It can take the form of a map, diagram, flow chart, or some other visual schematic that links program resources and activities to the desired results.
University of Toronto Health Communications Unit	A logic model is a diagrammatic representation of a program (Rush and Ogborne, 1991). A logic model provides a graphic depiction of the relationship between the main strategies of a program and associated goals, objectives, population(s) of interest, indicators and resources.
University 0f Wisconsin-Extension, 2003	A logic model. is a simplified picture of a program, initiative, or intervention that is a response to a given situation. shows the logical relationships among the resources that are invested, the activities that take place, and the benefits or changes that result.
United Way 2008	The most basic logic model is a picture of how a program will work. It uses words and/or pictures to describe the sequence of activities thought to bring about change and how these activities are linked to the results the program is expected to achieve
W.W. Kellogg 2004	Basically, a logic model is a systematic and visual way to present and share your understanding of the relationships among the resources you have to operate your program, the activities you plan, and the changes or results you hope to achieve.

Appendix 2 – List of Logical Frameworks

Name	year
Asian Development Bank 1998	1998
Asian Development Bank 2007	2007
AusAid 2000	2000
AusAid 2002	2002
AusAid 2005	2005
Bakewell, O. & Garbutt, A. 2005	2005
Bond, 2003	2003
CIDA 2001	2001
Dale,R. 2003	2003
DANIDA 1996	1996
den Heyer,M. 2001	2001
DFID 2002	2002
DFID 2003	2003
Ebrahim, A. 2002	2002
European Commission in Gasper,D. 2001	2001
FAO 2001	2001
Gargani, J. 2003	2003
GEF 2000	2000
GTZ 1997	1997
IFAD (n/d)	
IFAD, 2001	2001
Malawi Telecom 1990 in Dale R (2003)	1990
NORAD 1990 in Sartorius	1990
NORAD 1996	1996
NORAD 1999	1999
Potter,C. and Naidoo, G. 2009	2009
SIDA 1996	1996
SIDA 2004	2004
SIDA 2006	2006
Social Impact 1997 in Gasper,D. 2000	1997
UNDP 2009	2009
UNHCR 1999	1999
USAID 1980	1980
World Bank 2005 Education	2005
World Bank 2005 Environment	2005
World Bank 2005 Infrastructure	2005
World Bank 2005 Pilot project	2005
World Bank 2005 Water Supply	2005

Appendix 3: Copy of questionnaire

THE USE OF LOGIC MODELLING IN SOUTH AFRICAN NGOs

Purpose:

This questionnaire forms part of the doctoral dissertation of Lauren Wildschut at Stellenbosch University.

The purpose of the study is to capture and analyse current NGO understanding of what is required when engaging the various demands of donors when:

a) requesting funding
b) planning projects
c) managing projects
d) monitoring projects
e) evaluating projects

The confidentiality of individual responses is guaranteed.

Instructions

Please answer the questions by circling the relevant number(s) in each block. Some questions require you to circle ONE NUMBER only, whereas others permit you to circle MORE THAN ONE NUMBER. It is thus important that you read the instructions for each question very carefully. (Some of these instructions are in brackets).

Dotted lines mean that you need to WRITE your answer.

SECTION A: BACKGROUND INFORMATION

About your organisation

1. Main area of work (e.g. education, health etc.)
   .....

2. Particular focus (e.g. Education FET maths and science education, HIV/Aids)
   .....
   .

3. Primary activities (what is it that YOUR ORGANISATION does)
   .....
   .

4. Province your organisation works in
   .....
   .

About yourself

5. Job title (e.g. administrator, project manager)
   .....
6. Highest level of education (e.g. matric, undergraduate degree)
   .....
   .
7. Job description (what is that YOU do)
   .....
   .
8. Years of experience in the sector
   .....
   .

SECTION B: DONORS AND THEIR METHODS

Donors often require grantees (organisations that receive funding) to use specific methods or approaches to plan, monitor and report on projects. There are different names for these methods/approaches, and also different kinds of methods used by donors.

1. **How many of your donors have requested you to use particular methods of or approaches to planning/monitoring/evaluating/reporting of projects they are funding? Tick next to accurate description.**

The majority (more than half) of my donors	1
A minority (less than half) of my donors	2
None of my donors	3

2. **List five main donors your organisation has dealt with in last three years. In each case indicate whether the particular donor required a particular type of method for planning/monitoring/evaluating/reporting on projects they are funding?**

Name of donor	Did donor require their own method to be used?		If yes, which of the following <u>labels</u> were used by these donors to describe the method they wanted you to use? (Circle ALL that apply or specify other)					
	Yes	No	Logical model	Log frame	Graphic	Table	Flow diagram	Other (Specify)
1 …… ……	1	2	1	2	3	4	5	…… ……
2 …… ……	1	2	1	2	3	4	5	…… ……
3 …… ……	1	2	1	2	3	4	5	…… ……
4 …… ……	1	2	1	2	3	4	5	…… ……

5 …… ……	1	2	1	2	3	4	5	…… ……

3. Most donors make very particular demands regarding the methods/approaches they want NPOs to use.

a) Consider the list below. In your experience, which three (3) do you think DONORS most emphasize in their funding relationship with NPOs/CBOs? (You must select ONLY THREE.)

Show how activities (what you do) will result in outcomes (how people benefit)	1
Include measurable indicators (signs of success)	2
Involve everyone on the staff working together to plan the project	3
Involve the people who benefit from your project	4
Take the context in which the organisation works into account	5
Allow for unexpected benefits in the project	6
Be flexible enough to allow for changes in a project	7
Ensure that the organisation is accountable for their project (project is run according to what was stated in proposal)	9
Result in a document which allows external evaluators to evaluate the project	10
Produce project reports that are useful to the donor	11
Produce project reports that can be disseminated to the general public	12
Other (please specify) …… ……	13

b) Consider the list below. In your experience, which three (3) do YOU believe are the most important: (You must select ONLY THREE)

Show how activities (what you do) will result in outcomes (how people benefit)	1
Include measurable indicators (signs of success)	2
Involve everyone on the staff working together to plan the project	3
Involve the people who benefit from your project	4
Take the context in which the organisation works into account	5
Allow for unexpected benefits in the project	6
Be flexible enough to allow for changes in a project	7
Ensure that the organisation is accountable for their project (project is run according to what was stated in proposal)	9
Result in a document which allows external evaluators to evaluate the project	10
Produce project reports that are useful to the donor	11

Produce project reports that can be disseminated to the general public	12
Other (please specify)	13

SECTION C: YOUR ORGANISATION AND DONORS

Choose the donor which has <u>given you the largest grant or who has supported your work for the longest period AND has required you to use a particular method of or approach to planning.</u>

a) **Name the donor: .....**
b) **Label their preferred method (Select only ONE)**

Logical model	1
Logical framework	2
Graphic	3
Table	4
Flow diagram	5
Other (Specify:.....)	6

c) **Consider the statements below. Please indicate below to what extent your organisation used the donor's required method or approach for particular processes**

The donor's preferred method/approach was used in our organization:	**Yes, fully**	**Yes, partly**	**No, not at all**
for planning the project	1	2	3
to monitor our project	1	2	3
to evaluate our project	1	2	3
to report to our donor	1	2	3
to review our project	1	2	3

d) **Please indicate below to what extent you agree or disagree with the statements below:**

	Strongly agree	**Agree**	**Disagree**	**Strongly disagree**
The donor's method is suitable for development work.	1	2	3	4
The donor's method is difficult to develop.	1	2	3	4
I cannot see how the donor's method makes us more accountable.	1	2	3	4
The donor's method is worth the time it takes to develop.	1	2	3	4
The donor's method is very rigid.	1	2	3	4
The donor's method captures the complexity of our project.	1	2	3	4
The donor's method uses foreign terminology.	1	2	3	4

e) Consider the statements below. The statements describe the kinds of support donors could provide to assist NPOs and CBOs with meeting their demands.

Choose those 3 statements which you think are priorities in each of the tables (A, B and C) below. Mark the 3 priorities with a tick – the other 4 statements will have no tick next to them.

In each of the tables (A, B and C) you must have 3 statements that are marked with a tick and four statements that are not marked at all.

A: Training in/knowledge of:	**Priority 1-3**
1. Project planning training	
2. Project management training	
3. Project monitoring	
4. Project evaluation	
5. How to link means to goals, and problem to intervention to outcomes	
6. The right terms to use to fit in with the demands of the donor's method	
7. How to develop indicators of progress/outcomes/success?	

B: Resources	**Priority 1-3**
1. Staff specifically allocated to monitoring and evaluation duties	
2. Clear guidelines from donors on how to use their particular methods	
3. On-line/web based method so that there is not so much paperwork	
4. Examples of reports written by other organisations in our field of work that meet the donors demands	
5. Examples of instruments for collecting data in our field of work	
6. Additional funding for the planning, monitoring and evaluation methods they require	
7. Additional funding for the setting up of databases so that we can track our projects over time	

C: Ongoing support	**Priority 1-3**
1. Technical assistance (face to face) after training on specific model required	
2. Technical assistance (electronic) after training on specific model required	
3. A web-based repository of models, outcomes, indicators and data collection tools for use by NGOs/CBOs	
4. A listserve for all donor projects for sharing ideas and challenges	
5. Frequently organized seminars/ learning events for NGOs/CBOs	
6. All information from projects in our field (and funded by the donor) should be disseminated via websites and conferences	
7. Donors should provide us with current literature that reflects on their particular choice of model	

SECTION D: WAYS OF IMPROVING THE DONOR-GRANTEE RELATIONSHIP

NPOs/CBOs and donors often report various differences in the goals, methods and strategies used by each respectively.

Below are five strategies that could be used to close the gap between donors and grantees. Based on your experience, please rank order the strategies that you think would be most effective in closing the gap between donors and grantees.

Rank order the strategies: 1 for the strategy that you think is the most effective, 2 for the next most effective strategy and so on. The strategy that you think would be the least effective should receive a ranking of 5.

THE RELATIONSHIP WOULD BE GOOD IF DONORS

	Rank
1. Acknowledge that we work in a complex context	
2. Are flexible about changes within the project (e.g. changed outcomes)	
3. Are flexible about timeframes for achieving outcomes	
4. Accept alternative methods to theirs e.g. system dynamics, outcome mapping, soft systems methodology, appreciative Inquiry	
5. Focus on programme improvement rather than on external accountability	

SECTION E: Any additional comments on your use of donor models

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SECTION F: Any additional comments on your use of alternative models (not required by donors but used by your organisation)

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Appendix 4: E-mail invitation to NGOs to partake in survey

For attention: Director or Project Manager

I am doing a study on how NGOs use donor/funder-driven tools and processes for planning, implementing, monitoring and reviewing projects. These tools are usually called “logic models”, “logical frameworks” or “logframes”. In some cases, NGOs find these tools very useful and in others NGOs struggle with elements of the tools or processes.

My study is an attempt to understand the benefits and challenges of the tools so that recommendations can be made regarding their use in the NGO sector, particularly in South Africa.

You can contribute to improving how donors/funders engage with NGOs and vice versa by sharing your experiences. The findings of this study will be shared with all NGOs that participate in this study as well as key donors/funders.

Please send this e-mail on to the person in your organisation who works with donors/funders and is involved in the development of documents which donors/funders require when funding your organisation.

The questionnaire you need to complete will take about 10 minutes and is web-based.

I thank you in advance for your contribution to this study.

Appendix 5: Prodder input sheet

Prodder is a comprehensive directory of NGOs and other development organisations operating in South Africa. Compiled by SANGONeT, Prodder covers strategic development stakeholders such as non-governmental organisations (NGOs), community-based organisations (CBOs), government departments, academic institutions, donor agencies, CSI programmes, development consultants and parastatals.

If you would like your organisation to be included in the Prodder Directory and/or to update your information, please complete this input sheet and return it to the Prodder team at SANGONeT:

Tel: 011 381 3427, Fax: 086 685 9191, E-mail: prodder@sangonet.org.za, URL: www.prodder.org.za

---

1. Your organisation's contact details

Name		Acronym	
Telephone		Fax	
General E-mail		Website / URL	
Twitter		Facebook	
LinkedIn		Google+	
YouTube		GivenGain	

2. Tick the appropriate box

Head Office		Branch Office	

3. Physical address

Street Address		Suburb	
City/Town		Code	

4. Postal address

Postal Address		City/Town	
Province		Code	

5. Other offices

Province	**City/Town**	**Telephone**	**Fax**

6. Key contact people in your office

Head of Organisation			
Title		Name	
Position		E-mail	

Finance Manager			
Title		Name	
Position		E-mail	

Communications / Social Media Manager			
Title		Name	
Position		E-mail	

Other management team / senior staff members			
Name		Position	
Name		Position	
Name		Position	
Name		Position	

7. Which geographical areas are served by your organisation (indicate all relevant)?

Eastern Cape		KwaZulu-Natal		Northern Cape	
Free State		Mpumalanga		Limpopo	
Gauteng		North-West		Western Cape	
South Africa		Africa		International	

8. Please complete the following fields

Date founded	
NPO number	
Section21 company registration number	
Non-Profit Corporation number	
PBO number	
Tax number	
VAT number	
What is your organisation's annual budget?	

Financial year-end						
How many of the following staff members do you employ?	Full Time		Part Time		Volunteer/Casual Workers	

9. What is your legal status?

Academic		Bilateral		Chapter 9	
Co-op		Company (for profit)		Government	
Multilateral		Parastatal		Section 21	
Trust		Voluntary Organisation		Diplomatic Entity	
If any other, please specify					

10. Which of the following descriptions apply to your organisation?
*****International organisations operating in South Africa should also tick **International***

Academic		Chapter 9	
Community-Based Organisation (CBO)		Corporate Social Investment (CSI)	
Development Consultant		Embassy	
Donor Agency		Faith-Based Organisation (FBO)	
Foundation		International	
Labour Union		Local Government	
National Government		Network/Forum	
Non-Governmental Organisation (NGO)		Parastatal	
Professional Association/Union		Provincial Government	
Voluntary Organisation			
If any other, please specify			

11. What is your organisation's *vision*?

12. What is your organisation's *mission*?

13. Please provide a brief description about your current programmes / projects

1.
2.
3.
4.

14. What organisations / networks are you a member of?

Name of organisation or acronym	Contact details (telephone, website)

15. Area(s) of activity (please select a maximum of 4)

Adult Basic Education		Advocacy and Awareness	
Aged		Agriculture and Food Security	
Animal Welfare		Arts and Culture	
Children		Civil Society Strengthening	
Conflict Resolution		Counselling and Therapy	
Crime Prevention		Democracy and Governance	
Disability		Disaster Relief	
Early Childhood Development		Economic Development	
Economic Justice		Education	
Energy		Entrepreneurship	
Environment		Family and Parenting	
Funding and Grant-Making		Gender	
Health		HIV/AIDS	
Housing		Human Rights	
Information Communication Technology (ICT)		Infrastructure	
International Relations		Justice	
Labour		Land	
Legal Services		LGBTI	
Media and Communications		Monitoring and Evaluation	
Networking		Policy	
Poverty		Refugees	
Research		Rural Development	
Science and Technology		Skills Development	
Sport and Recreation		Urban Development	
Volunteerism		Welfare and Social Development	
Women		Youth	

16. Would you like to book a "business card listing" for your organisation in the Prodder NGO Directory which will be released in print in October 2012?

If yes, please refer to http://www.prodder.org.za/special_directory.

17. Would you like to have the *GivenGain* *Donate Now!* button enabled on your Prodder profile?

If yes, please refer to http://www.prodder.org.za/about_givengain.

18. Questionnaire completed by

Title		Name	
Position		E-mail	

NB. Please forward us a copy of your latest Annual Report.

SANGONeT Services in Support of NGOs in South Africa

Other SANGONeT services in support of the NGO sector in South Africa:

 # NGO Pulse Portal - www.ngopulse.org

General news and information for and about the NGO sector in South Africa.

 # NGO Pulse Premium Advertising Service (refer to www.ngopulse.org for more information)

Dedicated e-mail advertising service for NGOs and service providers to the NGO sector

 # SANGOTeCH Technology Donation Portal - www.sangotech.org

Discounted and donated ICT solutions from leading technology companies

 # "No Pain No Gain" Fundraising Campaign - www.ngopulse.org/npng

SANGONeT campaign aimed at raising money and awareness in support of NGO sector in South Africa

 # SANGONeT / NGO Pulse on Facebook

https://www.facebook.com/ngopulse

 # SANGONeT / NGO Pulse on Twitter

http://twitter.com/SANGONeT

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Appendix 6: List of Logic Models by category

Category 1

Articles

1. Carman, J.G. (2010, p 265)
2. Cooksy, L.J., Gill, P. and Kelly, P.A. (2001 p 122)
3. Cozzens, S.E. (1997, p 86)
4. Dyehouse, M., Bennett, D. (2009 p 190)
5. Haggard, L.M. and Brunett, S.J. (2006 p 190)
6. MacPhee, M. (2009, p 144)
7. Torghele, K., Buyum, A., Dubriel, N., Augustine, J., Houlihan, C., Alperin, (2007, p 475)

Manuals

1. United Way (1996, p vii).

Category 2

Articles

1. Armstrong, E.G. and Barison, S.J. (2006:484)
2. Arnold M (2006:261)
3. Bowen A (2004:11)
4. Coryn, C.L.S., et al (2010:201)
5. Crane B (2010, p 911)
6. Fielden, S.J., Rusch M.L., Masinda M.T., Sands, J. Frankish, J. and Evoy, B. (2007:118)
7. Gargani, J. (2003 p 59)
8. Hulton, L.J. (2007: 105)
9. Levin, T., Weiner, J.S, Saravay, S.M. and Deakins, S. (2004:426)
10. Lindgern, L. (2001 p 292)
11. Longest, B.B. (2005:558)
12. McLaughlin, J.A. and Jordan, G.B (1999 p 67) - tabular
13. McLaughlin, J.A. and Jordan, G.B (1999 p 68) - flowchart
14. Medeiros, L.C., Nicholson Butkus, S., Chipman, H., Cox, R., Jones, L. (2005 p 198) – 6 causal chain components and 1 elaboration
15. Medeiros, L.C., Nicholson Butkus, S., Chipman, H., Cox, R., Jones, L. (2006 p 199) – 7 causal chain components and 2 elaborations
16. Millar A., Simeone R.S. and Carnevale J.T. (2000, p 75)
17. Scarinci, I.C. and Johnson, R.E. (2009:223)
18. Schalock, RL. & Bonham, GS. (2003 p231)
19. Scheirer, M.A. (2000 p143)
20. Weiss, A.P. (2007:207)

Thesis

1. McLearan, K. (2003:47)

Manuals

1. Centre for Disease Control 2004 p8
2. Cyfernet. (2000 p 2).
3. Department for Transport, UK 2010 p5
4. Evaluation support n.d.p 3
5. Goodstadt M 2005 p3
6. Healthcare Georgia Foundation 2012 p6
7. Innovation network n.d. p4
8. Medical reserve corps 2007 p 10
9. Purdue University. (2000 p 5)

10. Trinity College, Dublin 2008 p8
11. UNESCO 2009 p26
12. University of Idaho n.d. p1
13. University of Wisconsin Extension 2008 p 45 (different components)
14. University of Wisconsin Extension 2008 p 47 (Wisconsin first book)
15. University of Wisconsin Manual 2008, Handout 14
16. W.K. Kellogg Foundation (2004 p1) (different formats)
17. W.K. Kellogg Foundation 2004 p 25). (different formats)
18. Wilder Research 2009 p15

Category 3

Articles

1. Dyehouse M Bennett D (2009:188)
2. Otto, A.K., Noveilli, K. and Mohoran, P.S (2006: 282)

Category 4

Manuals

6. Centre for Effective Services (2011, p16)
7. Flex Monitoring Team (2006 p6)
8. Medical Reserve Corps. (n.d. p2)
9. The Health Communication Unit (THCU), University of Toronto 2001 p4
10. United Way (2008 p 39)

Category 5

Articles

1. Anderson, L.A. Gwaltney, M.K., Sundra, D.L., Brownson, R.C. (2006:9)
2. Goodson, P., Pruitt, B.E., Suther, S., Wilson, K. and Buhi, E. (2006:265)
3. Monroe, M. et al (2005 p64)

Manuals

1. University of Wisconsin Extension (2008 p44)

Category 6

Articles

1. Adler M.A. (2002:207)
2. Cooksy, L.J., Gill, P. and Kelly, P.A. (2001: 121)
3. Golman, K.G. and Smalz, K.J. (2006: 10)
4. Gugiu, P.C. and Rodriguez-Campos, L. (2007:347)
5. Huhman, M.,Heitzler, C. and Wong, F. (2004:2)
6. Julian, D.A., Jones A. and Deyo, D (1995: 336)
7. Lando et al (2006:2)
8. Lindgern, L. (2001:296)
9. Sitaker, M., Jernigan, J., Ladd, S. and Patanian, M. (2008:3)
10. Stewart, D., Law, M., Russel, D. and Hanna, S. (2004:456)
11. Bryant and Bickman 1996: 123 in Weiss, C. (1997b: 48)
12. Bickel 1986 p 23 in Wholey, J. (1987, p 88)
13. Morzinski, J.A. and Montagnini, M.L. (2002:569)
14. Porteus, N.L., Sheldrick, B.J. and Stewart, P.J. (2002:131)
15. Wholey, J.S and Wholey M.S. (1981a pp 111-113) in Wholey J.S. 1987 p 83

Manuals

1. Harvard 1999 p2

Category 7

Articles

1. Livingood, W.C., Winterbauer, N.L., McCaskill, Q. and Wood, D. (2007:E4)

Category 8

Articles

1. Alter C & Egan M (1997: 98)
2. Den Heyer, M. (2001: 4)
3. Humphreys, J. et al (2010 p9)
4. Porteus, N.L., Sheldrick, B.J. and Stewart, P.J. (2002:120)
5. Riggin L.J (1990:113)
6. Auditor General of Canada 1981, p14 in Weiss C.H1997:49

Manuals

1. Harvard 2009 p9

Category 9

Articles

1. Adams J. and Dickinson P (2010:424)
2. Bickman, L (1996:113)
3. Brousselle, A. and Champagne F, (2004: 300)
4. Camasso M.J., Jagannathan R. and Walker C. (2004:47)
5. Carvalho, S. and White, H (2004:145)
6. Cheadle A (2003:148)
7. Chen, H. & Turner, N.C. (2012 p 403)
8. Donaldson, S.I. and Gooler, L.E. (2003:358)
9. Donaldson, S.I. and Gooler, L.E. (2003:359)
10. Duignan, P. (2004:9)
11. Gargani, J. (2003 p61)
12. Goodson, P., Pruitt, B.E., Suther, S., Wilson, K. and Buhi, E. (2006:264)
13. Hawkins, S.R., Clinton-Sherrod, A.M., Irvin, N., Hart, L. and Russell, S.J (2009:34)
14. Hawkins, S.R., Clinton-Sherrod, A.M., Irvin, N., Hart, L. and Russell, S.J (2009:35)
15. Hawkins, S.R., Clinton-Sherrod, A.M., Irvin, N., Hart, L. and Russell, S.J (2009:32)
16. Julian, D.A. and Clapp, J. (2000:206)
17. Leeuw, F.L. (2003:10)
18. Mc Graw et al 1996 in Weiss, C. (1997b:50)
19. Mercier, C., Piat, M.,Peladeau, N. and Deganais C. (2000:2)
20. Monroe, M. et al (2005 p64)
21. Page M (2009: 79)
22. Reed, C.S. and Brown, R.B. (2001:292)
23. Riggin, L.J. (1990 p 111)
24. Torvatn, H. (1998:76)
25. Torvatn, H. (1998:77)
26. Torvatn, H. (1998:79)
27. Tucker, P., Liao, Y.,Giles, W.H., and Liburd, L. (2006:2)
28. Turnbull, B. (2002:277)
29. Weiss, C. (1997a:504)
30. Weiss, CH (1997 b: 46)

Manuals

1. Aspen Institute (no date p 32)

Category 10

Articles

1. Brousselle, A., Lamothe, L., Mercier, C. and Perreault, M (2007:101)
2. Friedman, J. (2001:168)
3. Randolph J. and Eronen P. (2007:58)
4. Rogers P (2008: 41)
5. Trochim ,W.M., Marcus, S.E., Masse, L.C., Moser, R.P. and Weld, P.C (2008:14)
6. Unrau, Y.A.(2001:359)
7. Weiss, C. (1997b:50)